
NO! not an Amstrad publication!
AMSTRAD ACTION
THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING
BRITAIN'S LEADING MAGAZINE FOR THE AMSTRAD CPC 464, 664 AND 6128
ISSUE 39 ● DECEMBER 1988 ● £1.25
So you want to learn a language?
10 IF BASIC baffles you
OR C confuses you
AND FORTH fools you
OR PASCAL puzzles you
THEN turn to page 16 now for
THE COMPLETE CPC LANGUAGE GUIDE!
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- more than even you can handle!*
14 pages of reviews begin on p. 43
*probably
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● DALEY THOMPSON
●LIVE AND LET DIE
●CYBERNOID II
● PACMANIA
●SAVAGE
●1943
STOP PRESS! ● STOP PRESS! ● STOP PRESS!
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p.23

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AMSTRAD ACTION ● DECEMBER 1988

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NEWS ● LETTERS

SERIOUS SIDE

SOFTWARE ● HARDWARE ● PROGRAMMING



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January – June 1988

THE ACTION BEGINS ON 43!

GAMES ● MAPS ● ADVENTURING





ACTION TEST

All this! ➤ Cybernoid II ➤ Savage ➤ Daley Thompson's Olympic Challenge ➤ Fernandez Must Die ➤ Fire And Forget ➤ Live and Let Die ➤ Pinball Simulator ➤ Supersports ➤ Alternative World Games ➤ Ocean Conqueror ➤ Sabian Island ➤ Pacmania ➤ 1943 ➤ The Games ➤ Joe Blade II ➤ Taito Coin Ops ➤ Rockford➤ And more! ➤ In this month's *Action Test!* ➤



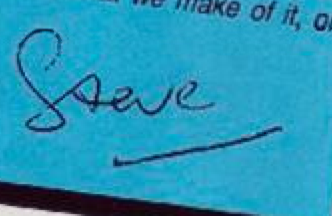
Too clever by half

Oh no, I hear you groan, Christmas already. 'Fraid so, and it seems to be getting earlier every year. Indeed oldsters like me can remember a time when it didn't start until December (gasp, cries of 'Never! He's exaggerating!'). The reason is obvious, and can be summed up in one word: *money.* There's lots about at Christmas, so everyone waits until then to release their big films/records/books.

This is particularly noticeable in the area of games for the CPC. Yet the full-priced *Football Manager II* was released in the supposedly slack summer period, and it's still outselling most budget games.

More than one observant reader has rung in to ask why there wasn't a *Mastergame* in last month's issue, and the simple answer is that there was nothing worthy of that title. And what happens this month? Firebird's excellent *Savage* is ousted from its rightful position as *Mastergame* by the even better *Cybernoid II.*

Still, every thingummy has a silver wotsit, and the good news is that, at the time of the year when you are looking around for games to get as presents, there's lots of quality stuff to choose from. As a result, next month's *AA* is bound to be crammed with even more goodies than this one, so *don't buy that game until you read what we make of it, or you may be sorry!*



The Christmas/New Year issue of *Amstrad Action* which hits the streets on 8th December features a great seasonal free gift. Don't miss it! And remember, your friendly neighbourhood newsagent will be *delighted* to reserve you a copy!

WRAPPING UP

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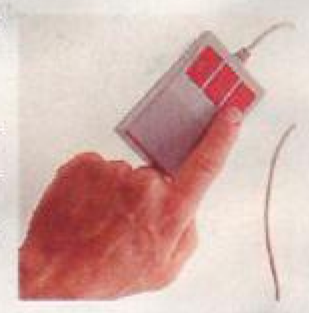
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AMSCENE

All the CPC news that's fit to print

Amstrad soars despite crash

The publication of Amstrad PLC's latest sales figures has confounded the critics and provided some useful pointers to its future development.

The figures – for the year ending 30th June 1988 and including last year's disastrous Stock Exchange crash – show Amstrad after-tax profits pushing ahead from £89 million (1987) to well over £90 million. Turnover for the same period increased from £511 million to £625 million. And profits would have been higher still had Amstrad not also during this period acquired the Fidelity brand name (for £3 million) and ended overseas distributorships (at a cost of £1 million).

Alan Sugar's statement as Chairman points out that the company has undergone a crucial period of 'seed planting and consolidation'. This includes forming wholly owned distribution companies in Italy, Germany, Holland, Belgium and Australia – all of which Sugar calls a 'major investment in the future'.

The report also contains strong indications that the CPC remains a valued item in the Amstrad catalogue. 'While not wishing to sound like an old broken record', Sugar is at pains to stress (as if!), Amstrad 'does not survive on new products alone'. Thus home computers continue to provide some 20% of the company's turnover – more than five times its printer figures, and easily more than its video and audio sales combined. Almost 700,000 Amstrad home computers were sold last year, no mean feat for a market now well past its period of fastest expansion.

Even more revealing is the increase of the Amstrad share in Spain, which recorded a massive 74% growth. 'In this territory', Sugar writes, 'the PC 1640 and the CPC range of home computers were the subject of major promotions and these were responsible for much of this growth'.

The report confirms expectations that the Sinclair brand name is to be adopted for the entertainment sector of the company's home computer products, with the Amstrad label reserved exclusively for business machines. No mention, however, is made of the Sinclair PC200 series – sparing coy Alan's blushes, perhaps, at its poor spec and performance?


● Sugar: CPCs contributed to Spanish growth of 74%

One last item is Sugar's own shareholding: 249,018,750 shares, 43.9% of the total share issue. This confirms rumours that Our Al is not short of a bob or two.

● **The major obstacle to Amstrad's future growth, as Sugar sees it, is the current shortage of DRAMS. Amstrad's long term response has been to acquire a major stake in an Idaho-based memory manufacturing and marketing company. The £45 million investment is intended to 'secure long term supplies', Sugar commented.**

In the short term, the Chairman's report states, Amstrad is to 'shift the emphasis of our DRAM consumption into those products which are highest in sales value' (terribly put, but we know what he means).

'Guardian' angle

The boys at Brentwood, ever eager to improve customer relations *(since when?)*, have installed an electronic bulletin board for 24-hour information and advice.

'We've increased staffing in our Customer Services Dept to 25', boasts Simon Angel, Amstrad Group Services Controller, 'but the installed base of Amstrad machines is now so huge' – there he goes again! – 'that customers can't always get through. So we've installed an electronic bulletin board'.

Its snappy title is 'Customer Services 0277 231276', and it operates on V21, V22, V22 Bis and V23 Baud rates running on Opus 1.03B'. The board provides interactive support for the CPC and is to carry public domain software for up- and downloading.

'Knowing every CPC owner can access information and advice for 8544 hours a year makes me sleep easier at night', smiled Angel (yuk).

Tim'll fix it

A new company specialising in the repair of computers – and particularly CPCs – opened in London recently, and has already attracted home and overseas business.

Tim Morris, 23, and Ian Vaudrey, 29, set up shop on an industrial unit in Brixton run by the South London Business Initiative 'Youth Enterprise Centre'. 'Most computer repair companies', said Ian, 'are based in the north of England, so we knew there was a gap in the market'. Response so far, he claims, has been 'overwhelming'.

VSE Technical Services, as the lads are rather grandly known, specialise in 8-bit machines. They offer a fixed price that includes VAT and postage. CPC repair prices include £21.90 for 'virtually any problem, excluding cabinet damage', and repairs to monitors at £24.90 (mono) and £29.90 (colour). Printer repairs should be around the £30 mark, too. Repairs are guaranteed for four months.

Before you bung your CPC in the post, however, we suggest you give them a ring on 01 733 5570 and confirm a quote.

Their address: VSE, Unit 6, 8 Nursery Rd, London SW9 8BT.


● Tim Morris (left) and Ian Vaudrey practise on a Commodore before they get to work on something valuable. Like a CPC, for instance...


● The Munsters: TV tie-in

Telesales

With the Christmas novelty market opening up, *The Munsters* is a TV tie-in with the 60's hit, currently being repeated yet again on Channel 4.

It's the first release from a new full price label, the badly named Again Again (sister to Alternative). The Munsters are a 'typical American family': a vampiric grandfather and mother, DIY dad, monstrous vampire of a son and a perfectly normal daughter who's considered weird by the others.

Again Again 'intends to produce games which are so addictive that everyone will want to play them again and again and again', which is a noble aim, if hardly an original one (it is unlikely that any company is intending to release games so boring that everyone will want to avoid them like the plague, now is it?). Still, buying a licence to a decades old foreign TV series is probably cheap, and provides plentiful artwork.

Q. What do you call Postman Pat when he's lost his job?


● Pat, postman and superstar

And another TV tie-in, this time from Addictive. Postman Pat, who has his own television programme and little van, is due for a pre-Christmas release (what he was in for in the first place is not known). Naturally Addictive assure us that the full-price game will appeal even to those impervious to the chap's charisma. Still, if you've ever witnessed a personal appearance by the man himself and seen the kids go wild over him (the editor has, and he's still got the scars to prove it,) you'll need no convincing that the game stands a good chance of success..

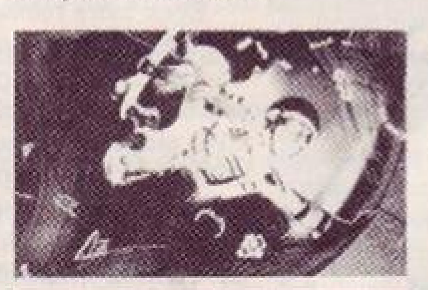
A. Pat!

● Roy, the comic hero

● *Roy of the Rovers*, the comic football hero – that's comic as in comic strip, not as in a footballer with a red nose and funny clothes (you leave Ron Atkinson out of this) – is about to make his CPC debut. It was originally planned by Piranha, but Gremlin took over the licence when Piranha went down the tubes. *Roy of the Rovers* is lurking on the shelves at this very moment.

● And while we're on the world's greatest game, Addictive have done what was previously thought impossible: thought of a new way to separate you from your hard earned cash. They've released an 'Expansion Kit' for *Football Manager II*, so now you can modify team names, colours and players' names on saved games and for a new game select the division, decide how much money to start with and change the amount of points awarded for a league win or draw. £7 on tape and a tenner on disk – how can it fail?

● Electronic Arts' long and eagerly awaited *Skate or Die* is arriving soon. It's a skateboarding game for up to eight players with five different events to take part in. The release date is set for January 89 and it'll cost £9 on tape and £15 on disk. If it's anything like EA's recent releases (*Arctic Fox, The Train, PHM Pegasus* etc.) it'll be brilliant.



● *Skate or Die:* EA's eagerly awaited latest

A joystick is a joystick is a joystick...


● Konix. The Navigator. £15 ☎ 0273 561306


● Cheetah. Challenger £5. Mach I £11; and Starfighter £15 ☎ 0222 555525.

● In case you were wondering, this is an RS232 Quick Patch Box. It allows you to reconfigure an existing RS232 cable quickly and easily using some push fit jumper leads. It's £20 from Action Computer Supplies, Abercorn Commercial Centre, manor Farm Road, Wembley, Middx HA0 1WL or ☎ 0800 333333

● Action's RS232 Quick Patch Box – but you knew that already, didn't you?

US invasion

If you went to the PC show back in September you can't fail to have seen a very large can of Pepsi, into which badly behaved urchins were dumped (no, not true, I just made that bit up). As the result of some complicated financial arrangement US Gold have brought out a full price game called *The Pepsi Challenge* – but fortunately you don't have to drink the stuff to play the game. It looks like *Pacman* with some other bits stuck in for fun, like laser bases that you can blast the equivalent of ghosts with and there are also some power pill type things that allow you to stomp the monsters.

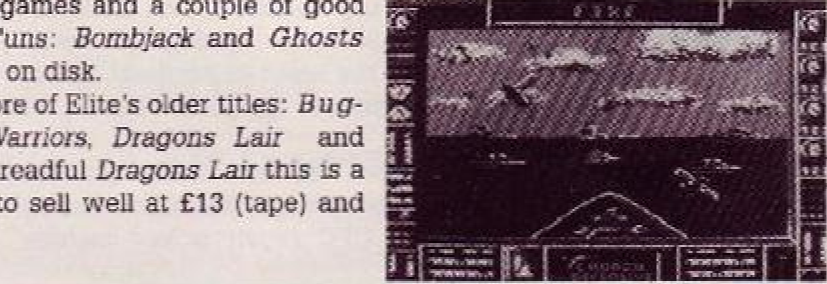
● US Gold present the Pepsi Challenge



Have a nice Christmas, Frank – it might be your last

Nicely timed for the Christmas stocking market are two new compilations from Elite: *Frank Bruno's Big Box* and *Fists 'n' Throttles*. *Frank Bruno's Big Box* has ten old games bundled together, headed by the not very good *Frank Bruno's Boxing, Commando, Ghosts 'n' Goblins, Airwolf, Bombjack, Scooby Doo, 1942, Saboteur, Battleships* and *Batty*. A wide variety of distinctly average games and a couple of good 'uns: *Bombjack* and *Ghosts 'n' Goblins*. £13 on tape and £18 on disk.

Fists and Throttles is five more of Elite's older titles: *Buggy Boy, Thundercats, Ikari Warriors, Dragons Lair* and *Enduro Racer*. Apart from the dreadful *Dragons Lair* this is a terrific package that deserves to sell well at £13 (tape) and £15 (disk).



Mirrorsoft challenge *AA* on *Fleet St Ed*

Mirrorsoft have responded angrily to *AA*'s review of their long-awaited DTP package *Fleet Street Editor*.

Marketing Director Pat Bitton accepted *AA's* invitation to respond to Pat McDonald's conclusion that *FSE* was 'hopelessly bugged' and 'almost useless' for desktop publishing. We publish her letter and McDonald's response.

Dear Pat,

I've discussed with our Product Development team your review of *Fleet Street Editor* in *Amstrad Action* 38; their responses are below. I'll say first that most of what you term bugs are aspects of the way the program works, which are not same as your own opinion of how they should. The only actual bug you have discovered is the corruption of graphics loaded into a page: this is covered below also.

Art Studio

1. Medium resolution is used for graphics to maintain aspect ratio.
2. **Spacebar** is used to select options as it is physically easier to use in conjunction with the cursor keys.
3. Only some imported graphics come in as negative images.
4. A combination of Define Brush and Brush Width fulfills the airbrush function.
5. There is only one font because it is assumed that the use of *text as graphics* will be minimal. This text can be resized in the same way as any other graphic.
6. A last minute addition to the manual now informs users that they should position a graphic to be saved from the Art Studio in the top left-hand corner of the screen to avoid picture corruption.

Copydesk

1. A font editor and extra fonts is planned for publication.
2. The slow scrolling speed results from a trade-off between screen scrolling and the facility for rules and boxes as well as text on the page.
3. The justification style command does *not* only affect full columns or pages, but any two or more lines within a column.
4. Surely it makes sense to deal with a graphic that fits within the screen display area? Larger/longer rules or boxes can be produced in two or more stages.
5. The 17K allowance for graphics on a page is sufficient for most page designs.

I appreciate your offering Mirrorsoft right to reply. At the end of the day, the choice between two programs which produce a similar effect depends entirely on the way in which the user chooses to work.

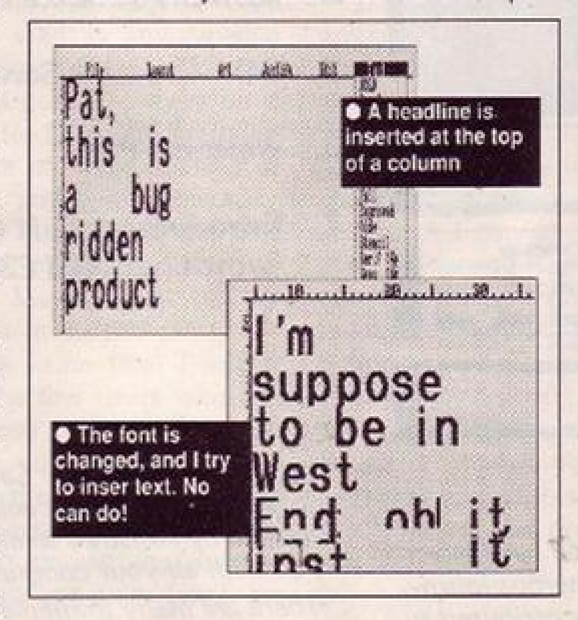
Pat Bitton, Marketing Director, Mirrorsoft Ltd

Pat McDonald replies:

Dear Pat,

There are numerous bugs in FSE. For example, sometimes text – both in headlines and in body – becomes impossible to edit: the cursor can't 'reach' it to remove or alter it! When characters are deleted, sometimes traces of them are left behind on the screen. Here's how to invoke just one of the many bugs.

You don't deny the existence of these (and similar) bugs. As for what you term 'aspects':–



● A headline is inserted at the top of a column

● The font is changed, and I try to inser text. No can do!

Art Studio

1. *Aspect ratio could have been maintained while doubling onscreen resolution by using mode 2 – which is mode 1 cut in half.*
2. *If* **Spacebar** *is so convenient, why isn't it or the* **RETURN** *key used throughout the package?*
3. *Imported graphics should* ***always*** *be usable. They're not.*
4. *Your suggestion is inadequate, in that spray cans produce a random splatter. Merely creating a splatter pattern and painting this on would look too regular. Furthermore it would involve too much time.*
5. *The facility to change, load and save fonts, even in an art package, is not technically unfeasible or even difficult – we have published Type-In programs that do it. See also point 1 below.*
6. *You mean you're not even going to correct an obvious bug?*



Copydesk

1. *Does this mean another two year delay for the facility to edit fonts?*
2. *Stop Press can scroll more bytes of screen memory in 5% of the time. It's all very well saying it's a tradeoff, but Fleet Street is unusable because of this poor performance.*
3. *Justification is global when the screen is redrawn.. Redrawing sometimes cures onscreen screwups, but as a result the same justification must be used throughout a page.*
4. *You misunderstood me. I quote from the review: '...the* ***character scale*** *which is always onscreen...' – as opposed to the positioning of graphics.*
5. *I didn't say it was insufficient. Nevertheless, some people will, like me, find that they cannot load all the pictures they want.*

At the end of the day, the choice between two programs which produce a similar effect depends entirely on the way in which the ***programs*** *choose to work. Or not, in the case of* Fleet Street Editor.

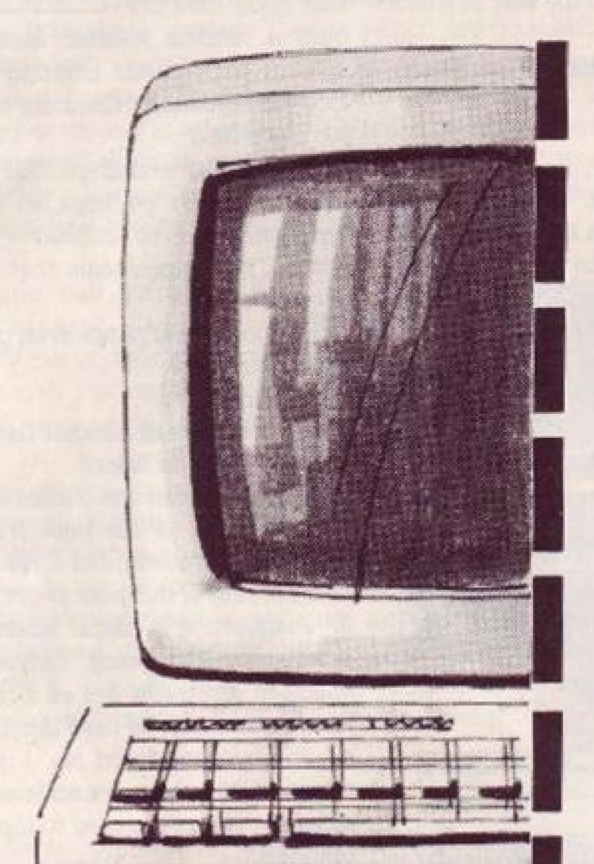
● Have you used *Fleet Street Editor*? What do you think?

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A Message from Amstrad's Chairman . . . . .

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There are many immediate and direct benefits available, so don't delay before filling out the application form below and sending it back to Amsoft.

Yours sincerely,

Alan Sugar
Chairman AMSTRAD Plc

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AA/KP12

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REACTION

Readers' writes

A retailer...

If Romantic Robot really advertised the utility, as the good Doctor Goldscheider did in *Reaction Extra*, as a tool for saving/dumping screens and altering programs and backing your own software to disk, with a warning that to use it for copying is both illegal and biting the hand that feeds you, then they would be seen to be at least showing their distaste for piracy and perhaps doing a little bit towards stopping the tide.



'HEY – HERO OF THE LANCE – COME AND KILL THIS SPIDER!'

Piracy – the debate goes on (and on...)

Last month's *Reaction Extra* – a heated debate between Dave Marshall of Digital Integration and Alexander Goldscheider of Romantic Robot on the latter's Multiface – provoked numerous lengthy and impassioned, though rarely very clearly thought through, replies. Piracy, it seems, is a subject rather like sex, politics and religion: everyone knows what they think, and never mind the logic. Here's a selection of edited highlights...

But if they did that, I put it to Dr Goldschieder that their sales would be hit, as they know as well as anyone else that their product is being used for illegal purposes even on a small scale. There are probably thousands of these devices in use. I am pretty sure that they are doing the industry out of a great deal of money, which is why Mr Marshall got on his high horse in the first place.

At the same time I apologise to the few users who are using these products for their intended purposes and more power to their elbows as these very same people will be programming games etc. in the future and hopefully I will be making a living from their efforts.

I, at the moment, do not sell any copying device in my stand against pirating but it is obviously futile as people just buy them direct from the manufacturers. So I am thinking of changing my policy so that if I sell them I can at least point out the consequences of misuse. Not the best solution but I fail to see what else I can do.

S Palmer
Abingdon

So on the one hand we have someone resolutely opposed to the Multiface and preparing to sell it...





Blame Marshall and Goldscheider – they started it!

And an upgrader...

I was introduced to computing via MSC courses and decided to purchase 464 for various reasons. During the time I had the 464 I built up about 60 software titles including games. A lot of the software I'd found very useful, but became disillusioned with cassette loading, in particular the time taken. Due to increasing access to PC's I decided to purchase a computer with a Disk Drive, rather than upgrade the 464. So staying faithful to I Amstrad bought a 6128. I still wanted to use the tape software and decided to purchase Multiface to enable me to transfer to disk. The original tapes were then sold enabling me to purchase disk software.

Letter from a man who gets into a lot of arguments in pubs

Oh good that's better, a little bit of controversy at last! This Marshall/Goldscheider thing shows great promise and could run and run.

Dave Marshall must be aware that we, the average home micro owner, are not in the business of wholesale software piracy. We are, however, in the habit of making back-up copies of our original over-priced software. Indeed, the first thing that the 6128 Manual tells you to do is to make a copy of the CPM+ Master disks and only work from the copies! Magnetic Scrolls' *The Pawn*, to name but one, advises you to make a backup of the master and use the copy. This is the approach Digital Integration should take. To offer to do a replacement or an upgrade a 'nominal' (but undisclosed) sum is not good enough.

Early on in his letter I see that he lists all the reasons why 'copying' is damaging to his health. He mentions that he has to pay programmers, administrators, marketing and so on. I'm sure all *AA* readers will be gladdened to know that profit appears too far down his list of priorities to deserve a mention!

And now to the good Doctor's reply. If ever a letter has countered every accusation *and* managed to include a full review of the facilities of his product that was nothing short of a bit of free advertising, then this was it! Brilliant. I am a Multiface, Bonzo, Discology, Disckit3 etc, user. To quote Dr G: 'Backing-up is an essential activity in computing.' I will go one stage further. If you own a disk drive and the software is only available on cassette, then transferring tape-to-disk is an essential activity!

So come off your 'holier than thou' soapbox Dave Marshall. Can you honestly say that you have never taped a record off the radio or made a copy of a friend's LP? I doubt it. Put your own software house in order first, before you start criticising Romantic Robot.

Make your software easy for the consumer to make back-up copies and all your paranoid fears about 'playground pirates' will disappear. Then you can concentrate your ulcer on the real pirates who are stealing your costs, advertising, rent etc., but thank heavens not your profit. By the way, who are Digital Integration?

Bob Adams
Welwyn Garden City

Crikey! Sorry we had to tone down one or two of your more colourful remarks, Bob (the organisation you refer to is FAST, by the way – you were one letter out). I detect more heat than light from your contribution, though. For example:
1) Why will making backing-up easier get rid of 'playground pirates'?
2) How can pirates hit costs but not profits – are they selective?
3) Surely you can see a moral difference between making copies for personal use and for profit?
4) What's wrong with making a profit?



●Not practical

Copying for the purposes of legitimate back-up is not theft. Indeed the licences issued by the vendors of serious software nearly always make due allowance for back-up copies. Given that the software is much more expenisve than games, the vendors have much more to lose, yet they do not have the obsession with piracy that most games software houses seem to have.

I doubt that the use of Multiface copiers, or tape-to-disk utility software, makes more than a very minor contribution to piracy (even the playground sales type). It is much easier, quicker and cheaper to use a twin cassette deck hi-fi than to break into complex protection systems.

If the software vendors want to make a serious contribution of their own to the problems of tape-to-disk copies, they might like to stop ripping off their customers with the cost of disks. Since when did a 3 inch disk cost over £4? Yet I see Arnor seeling £7.86 for a copy of Digital Integration's *Tomahawk* on tape, and £11.81 for the same program on disk. I presume a cassette costs more than 5p! And Digital Integration are not alone – most vendors follow the same iniquitous practice. Given the discounts that they get for bulk purchase of disks, I might suggest that a maximum price differential of 75p still gives them a fair profit.

If the games software houses spent half the effort on the quality of their games that they do on complex tape protection systems we might see the Amstrad CPC used to its full potential. The other half they could spend on promotional giveaways you only get when you buy the original software (e.g. posters, badges, etc), which would have the effect of discouraging playground piracy! Being on the wrong side of 40 the goodies would not appeal to me, but if they stop the constant moaning about piracy I would put up with them.

Christopher Steggles
Chandlers Ford

All my software is for my personal use, I have not sold or received copies. Also what's the point in paying £15 for a game only to be disappointed. Disk premiums are far too high as are the 3 inch disks themselves. The disk versions are not always enhanced, nor is the extra memory used. As I now have a 5.25 drive as well for economy reasons, and there is no software for the CPC's on that media, I transfer my purchases. I'm not a pirate nor do I deal with them, but I think I am allowed to develop my system to suit myself. I have spent an awful lot of cash on computing so I don't see why there's the fuss about these gadgets, it doesn't stop me purchasing software. I don't just use Multiface for transfers but for pokes as well and to further my understanding. As I hope to take up employment in computers I need the education I gained from my system where a Multiface is present, I can't see pirates using this when they can only supply Multiface users.

John Goodwin
Sheffield

...and on the other hand there's someone making the usual ritual noises against piracy and actually profiting from the sale of copied games! Listen, John, if you transfer taped games to disk and then sell the tapes ***you're breaking the law****.*

●A letter that doesn't mention piracy once

My only complaint about *Amstrad Action* is the decreasing number of reviews for games and the quality of the screenshots are getting poorer. I hope you would do something about this. It seems that you are not able to review games like *Victory Road, Rastan Saga, Uridium Plus, The Last Ninja, Rimrunner, Gunship* and *Black Lamp*.

Games for the CPC are getting better as programmers are getting used to using the CPC. However, some software houses are getting sloppy. *Electric Dream* is a shadow of its former self – consider their terrible conversions for *Super Hang On, Super Sprint, Fire Trap*, their games are no longer electifying. Please bring back the good old *Spindizzy* days. Activision fares no better. In the past I looked forward to their releases but now their conversions are pathetic and each time I dread looking at their new releases. CPC users should collectively boycott their releases to teach them that they cannot get away scot free with shoddy conversions.

Software houses should also take note that too many projects to complete would only bring down the quality of the conversions. Ocean is one of those guilty parties - consider *Predator, Tank* and *Wizball* (horrible plus terrible). Imagine and Gremlin are committing the same mistake as Ocean - too many conversions, ending up with substandard works.

David Wong,
Singapore

Don't assume, just because a game is promised, advertised or even previewed, that it's actually coming out tomorrow. The CPC games scene is littered with late arrivals and postponed and cancelled releases. Of the games you mention, for example, Victory Road, The Last Ninja, Rimrunner and Black Lamp are all either impending or late. Actually you can't blame software houses really, because they're dealing with a creative process that cannot accurately be predicted. After all, no-one in their right mind would predict a publication date for a half-written novel, would they? Still, that seems to imply that software houses aren't in their right minds for promising them! Of the others, we reviewed both Uridium and Gunship in AA37, (pages 36 and 40). Even though it's difficult with a monthly publication in which so much gets written a while before it appears, we try as hard as we can to print reviews to coincide with releases.

We don't always judge it right, of course (any sign of Heroes of the Lance, US Gold?).

●'Excess profits'

We need to know *why* people pirate software in the first place. Could it not be that software prices verge on the extortionate? It would be most enlightening to see what sort of profit margins people are making when selling a game at £9.99 or more. Although I personally do not pirate software, I can see why so many people do it, the high prices. And when somebody comes up with a peripheral that makes the job a whole lot easier, obviously the temptation for some is too great. The majority of games players are under 16 years of age and are unable to work for a living and have limited pocket money, so if a friend has a game you want, why not take him up on his offer? After all, your chances of getting caught for being in breach of copywright are negligible.

In short, the majority of software houses are simply pricing themselves out of business, rather than pirates copying them out of business.

Anthony Perkins
RGN RMN RSCN

●Last letter about piracy, for now

How's about this magazine organising a campaign to seek legislation against software houses producing faulty, bugged and poor quality software making it a legal requirement that they be bound to provide support, and provide back-up copies on request at a fixed nominal charge and that they guarantee to provide this service for a period of 10 years after the product is finally withdrawn from sale? Then we can bury the piracy argument once and for all, and they can get on with the job of finding the real culprits. End of story. All those in favour please signify.

M F Budd
Southampton.

Double trouble

I bought a DD1 from the Amstrad User Club, promoted as coming with £100 worth of software (12 tapes) – as is the DMP-2000. Fortunately I did not buy a DMP-2000 as well, because what I got with the DD1 are the *same* tapes as I had when I bought the CPC 464! (In fact it contains 11 different tapes and a duplicate of *Roland In the Caves* – so I now have *three* RITC's!)

Naturally I complained to the Amstrad User Club, but they replied that it was an Amstrad promotion not theirs, and observed that I was the only person to have complained. All they could suggest was that I give the tapes to somebody else. This might be charitable, but it's hardly a serious solution!

Wouldn't it be a good idea for the AUC to print a warning that the tapes are the same?

Clare Jenkins
Newtown

We spoke to The Amstrad User Club's Keith Patterson, who pointed out that £139.95 for the DD1 is 'an unbeatable offer'. No doubt it is, but Clare is miffed because she bought it for the 'twelve Free Amsoft tape based games which have a RRP of over £100.00' (quoting from September's Amdata, the official club newsletter). We've looked at the offer as printed in the August, September and October issues of Amdata, and blowed if we can see any mention of the fact that the 'Amstrad 12 Pack' is the one you get when you buy your 464 – though, to be fair, they do list what the games are.

Keith did say that if Clare returned her unwanted games to him at the Club address he would exchange it for a year's subscription to the 'Lawline Personal Advisory Scheme', worth £20. Still, it's a long way short of the £100's worth Clare thought she was getting!

The moral is: if you can, find out exactly what you're getting. A lucky dip can be fun, but it ain't necessarily so!

Just... desert

In Microprose's *Gunship* I have reached the rank of Colonel with two National Defence Service Medals, numerous Campaign Ribbons, three Bronze Stars, two Silver Stars, four Army Commendation Medals, and a distinguished service cross. I have been in pursuit of the highest medal, the congressional Medal of Honour, for some time now and it still eludes me.

Imagine the situation, flying a night mission in western Europe, all reality levels, volunteer Hazardous duty against first line troops. I successfully destroy all primary and secondary targets plus some 80 additional targets without so much as a scratch on the helicopter and upon debriefing am told that I will be peeling potatoes for a week due to dereliction of duty! To be told this after an arduous tour is somewhat frustrating. Do you have an explanation for this? I shall be writing to Micropose to see if they can answer my question.

Anthony Perkins, RGN RMN RSCN
Bishop Auckland

No indeed. We're as baffled as you are. We spoke to Microprose's Laing Burgess, who admitted that although he'd himself experienced the peeling potatoes punishment, 'That's the first time I've ever heard anything like that!' Now this is neither a consolation nor an adequate explanation, but if anyone else has had a similarly demoralising experience, perhaps they could let us know.

In the meantime, may be wondering about Mr Perkins' impressive, military-sounding letters after his name. So were we, so we rang and asked him. Apparently they stand for Registered General Nurse, Registered Mental Nurse, and Registered Sick Children's Nurse!

A wee favour

Could you please send me every review you have done including graphics, sonics, grab factor, staying power and overall. I've only just bought my computer and my friend showed me *AA*, thought it was brill. And if you do I will know whether to get the game or not. If you did, I would buy every issue from now on.

Marc Brades
Windsor

Before the rest of you say otherwise, no we didn't make this letter up (or indeed any letter in Reaction). Very sorry Marc, but we do have a magazine to run!



Sugarman

BEAT THE ODDS

Oh dear. We sent Pat McDonald to review a betting program, and he comes back with 'a certainty', a betting slip and... Hang on a minute, *where's the Christmas kitty gone?*

COURSEMASTER

Intraset Ltd, 6 Gilderdale Close, Gorse Covert, Birchwood, Warrington, Cheshire WA3 6TH
● £14.95 tape ● £16.95 disk

Bookmakers rarely go out of business. One reason is that so many of us make 'punts' – bets based on arbitrary, subjective reasons. Any program that aims to assist you to gamble profitably must do so in a logical, objective manner. This is what *Coursemaster*, a predictor for horse races, tries to do.

```
PREDICTING WINNER
The computer has analysed the data and
the predicted order is.....
THE RACE IS THE ...Race0003

THE PREDICTED WINNER IS...
THE SECOND CHOICE IS......Ikdam
THE THIRD CHOICE IS ......Path's Sister

Ikdam looks a good each way bet
Path's Sister
 looks A VERY good long odds shot!
Bold Illusion
 looks A VERY good long odds shot!
Path's Sister
looks a VERY good each way bet!
Bold Illusion
looks a VERY good each way bet!
Legendery Dancer  SINGLE WIN BET

  PRESS 'P' TO PRINT OUT PREDICTION
  PRESS 'M' FOR MENU
```

● How *Course Master* suggests you bet

Coursemaster comprises two programs, BANK and RACING. The first is generally called from the second, main program. Because of the size of this controller program – 36K of Basic, or seven *Type-Ins* pages – only one race can be handled at a time, although the size of the field, together with the number of odds, can be considerable.

Sport of kings

Gambling on horses is thought by some to be socially obnoxious, expensive, boring, time consuming and pointless – a bit like home computing, really.

The probable performance of each runner is worked out by the bookmakers as odds against winning. This figure also contains the bookies profit. For instance, a horse might be a good runner, but people don't like betting on it: in this situation, the bookmaker makes the horse a more attractive proposition by making the odds longer. A stake of money is placed on a given runner. If it wins, then a sum of money is given back according to the odds. For instance, odds of 2 to 1 would return two pounds for every pound wagered, plus the stake money back.

The above is an example of a 'win-single' bet, where you are betting on a horse winning. 'Each-way' bets win money if a horse is placed in first, second or third positions (fourth in a big race). 'Forecasts' place multiple horses in the same race to be placed, and the list gets more and more complex, down to the 57-combination 'Heinz' (geddit).

The main benefits of betting on multiple horses are that the odds are multiplied together. So, betting on three horses to win at 10 to 1 odds apiece results in combined odds of 1000 to 1 (10 X 10 X 10 to 1). Winning at these odds makes a lot of money. The problem, as anyone who's ever attempted such a bet knows, is that it doesn't happen very often.

Computing the odds

The program is entirely menu driven, with single key presses used in the main. So it should be easy enough for beginners to use. The manual helps a lot in explaining the two sides of the subject – computers and horseracing.

You start off by inputting race details. Pick up a newspaper with racing pages. See all those statistics? *Coursemaster* doesn't use all of them, but you still have to plough through tables of figures in order to extract the information the program requires.

'The man the bookies loathe'

Just for a comparison, here's a few words on some of the prospects of the 21st October from **Robin ('The Man the Bookies Loathe') Lloyd**, a regular race follower:–

'Most of the racing at Newbury today isn't worth a bet. Too few of the horses haven't raced this season, and some of the races will be a close thing... The likeliest looking prospect for a decent bet is Calapaez in the 2.40. Kribensis the favourite has an impressive record, but that was last season. As opposed to Calapaez, who won a race just three days ago.

'The only other possibility is the 4.30 at Doncaster. This is a new race, which makes things tricky to start with. Field is unspectacular – no one horse is really outstanding. Path's Sister is down at 12 to 1 odds though, which is really a bit generous. I think perhaps a long shot at that, plus a forecast bet with Green Steps at 10 to 1. If I win, I'll get perhaps £120.'

Interestingly enough, *Coursemaster* also suggested Calapaez for the Newbury race, the actual result being that Robin lost money. At Doncaser things were a little more fluid, with seven different bets being suggested, including long shot or each way bets on Path's Sister. Bold Illusion was a similar tip, and each way bets on these would have brought in money. (Robin lost money, but he didn't use *Coursemaster*.)

Many people devise systems for horse racing or roulette. The reasoning upon which such systems are based is generally sound. That is, sometimes, situations are predictable enough on which to win. Possibly you don't believe that – but professional gamblers do exist.

Bookmakers still make money because the majority of the gambling fraternity use luck rather than statistics. Even the most hardened betting man can have a 'feeling' for a horse, but the people who make money follow their head, not their heart.

This program places some order on your bets. It forces you to think about your bets. It also has a bank feature, which is a useful means of seeing who's ahead – you or the bookmaker.

Better not

Most people don't bet regularly, and this is a good thing. Gambling is the slippery slope to poverty, and **YOU SHOULD NEVER BET WHAT YOU CAN'T AFFORD TO LOSE**. The manual points this out plain and simple, and I totally agree. Gambling should be regarded as a pastime, a bit of fun. Like alcohol it's a good servant but a bad master *(that's enough platitudes – ed)*.

The drawbacks to the program are that it takes a long time to input all the statistics from all the races. Coursemaster can probably gain you at least some money if you are prepared to continue a long term betting campaign. The question is, does anyone have the patience to try their hand in such a longwinded manner? Not many, I suspect. ●

GOOD NEWS	BAD NEWS
■ Menu driven. ■ Informative manual. ■ Real-time betting possible.	■ Lots of figures to enter. ■ Can take a while to come up with a good tip. ■ There's still only one certainty: rich bookies.

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THE CPC LANGUAGE GUIDE

People who don't know a lot about computers find it very mysterious how these machines can make decisions on their own. What they fail to realise is that computers mimic the decision making process of human beings *exactly*.

They don't learn how to make decisions – they are told, precisely, under what conditions to process data in a particular way. Computers have to be told exactly what to do, and when to do it.

These lists of instructions on what to do are called programs (not programmes!). Programmers are the people who design these lists of instructions. It isn't necessary for them to understand what goes on inside computers, or even to come into contact with the machines. If they are fluent in a language that the computer can understand, then they can program (command) that machine – and all its duplicates scattered around the globe.

If you can grasp this much, then you're ready for the rest of this article.

Contrary to what you might imagine, your CPC can only directly understand one language: machine code. This is a very simplistic language that consists entirely of numbers. As it requires no translation, machine code is the fastest possible language to use in terms of how long a program takes to execute, as well as being extraordinarily compact in its memory space. Unfortunately machine code is immensely tedious for a human to communicate with, and so a series of memory aids, or mnemonics, were devised to help people get along with machine code. These are called assembly language.

A converter program has to be written to transform the assembly language instructions into the machine code numbers. It's called an assembler. Assemblers are generally fairly boring to use – all they do is read in files of instructions ('source code') and write out to tape or disk blocks of machine code instructions ('object code'). (If you've been following *First Bytes* with Richard Monteiro all this will be familiar to you.)

Bad language

Assemblers tend to come with a few other programming tools as well – like disassemblers to enable the perusal of programs by other people, monitors to help squash any bugs ('errors') in programs, and so forth (pun intended).

The problem with assembly language is much the same as for machine code. People find it difficult to use. Although the programs run fast, development time is far too great. What was wanted were languages easy for human beings to write in, without compromising too much the processing power of the machines. So, in the late fifties and early sixties, such languages were written.

On the Amstrad there is a bewildering variety of these *high level* languages. One reason is the huge demand generated by new CPC owners. People become fluent in a language, and then don't want to waste that expertise when they change computers. The same goes for people training to program a machine they can't afford – so they buy a CPC to program when they don't have access to the correct machine.

Go Forth and...

So you know **Basic**: what language do you learn next? The answer is: it depends! Languages are written for specific purposes, although they may well be adapted for

Pyradev

AA7 **● Gremlin Graphics/Discovery ● £29.95 disk only**

Pyradev is a complete suite of programs on disk. You may believe that disk software is fast – but remember, it's not as fast as ROM software. Speed griping apart, the virtues of *Pyradev* are numerous. For a start, not only does it have a fast assembler, disassembler and monitor, it also has a disk editor that's very good indeed.

The real power of the system isn't apparent until you start looking through the well written manual. Source code can be in several different files, even on different disks. That means that really big programming projects are possible, with hundreds of K of data being assembled at once.



● *Pyradev* – the complete suite

Maxam

Arnor

£19.95 tape ● £26.95 disk ● £39.95 ROM

Maxam 1.5 ● *AA33* ● £39.95 ROM only

Maxam II ● £49.95 disk ● CPM+ only

The most popular series of assemblers for the CPC, *Maxam* 'as is' is a good, allround package that delivers well for both tape and disk users of all CPC's. It has the unusual feature of letting you embed assembly language instructions within Basic command lines.

Maxam 1.5 is much more specialized, needing *Protext* as well to get any sort of performance out of it. *1.5* contains a few improvements over its predecessor, although nothing outrageously impressive. *II* is for CPM+ only, although it is a comprehensive package for working within CPM+ code – useful if you're writing for the business community and want the program to be portable across a range of machines. *II* compares very favourably with *Devpac 80*.

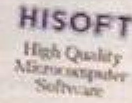
Devpac 80 v2

AA23 **● Hisoft ● £39.95 ● disk only**

You've seen the rest – try a novelty. *Version 2* of the CPM disk version of *Devpac* (what a pedigree!) really is excellent. The secret lies in the manual: 100 pages of readable, well written material – it's even witty in places! A rarity indeed for serious software. There are options for changing virtually all of the default settings: if you're not at home with *Wordstar* type key selections, then you can quite easily change them to what you want.

Indeed, this last point is the root of the only major problem – setting up the beastie to exactly what you want can take a fair old while before you get it right. If you know what assembly is all about and want to get on with producing standard Amstrad or CPM or even CPM+ programs, this is for you. On the other hand, if you intend to specialize, it may be an idea to go for one of the other products.





● Devpac80: a rarity – a well written manual!

C for yourself *(groan)*

The language of the moment: computer bores rant and rave endlessly about C compilers, linkers, standards and inconsistencies. The popular press (funny, I thought *AA was* the popular press) sometimes portray C as a wonder language that performs tasks in a fraction of a second, adds years to your lifespan, cures a variety of diseases and makes a mean cup of tea.

The good side of C is that it's fairly easy to drop down to machine code level within a program. This includes passing variables and parameters to routines. So you could write a program in C, find out the bottlenecks, and re-write those using super fast machine code. Also, C tends to accumulate libraries of ready made routines: like other languages, only more so.

Arnor C

Arnor ● £49.95 ● CPM+ only

Arnor's offering comes packaged and presented to the same high standards as BCPL. The editor supplied with it is APED – Advanced Program Editor – and, being a cut down version of *Protext* (the word-processor, as if you didn't know) is terrific for writing source code. Furthermore this is a comprehensive implementation, lacking only bit-sliced variable types. So converting C programs from other machines should be easy enough.

The problem with the package is that it is not a true compiled version. Programs must be run in conjunction with an interpreter on the disk. Also, there is a faster version available, in the shape of Hisoft C. One final note; bear in mind that the program needs CPM+ to run.



● Arnor C – packaged and presented to a high standard, as you'd expect from them

● 'Programming in C', yet another tome from Ian ('Scuse me, I feel another book coming on') Sinclair

Hisoft C

Hisoft ● £39.95 ● disk only

This works with all versions of the CPC. It is quite a fast implementation, and contains a fair-ish editor for writing on. A library of routines especially for the Amtrad is included, for such tasks as reading the keyboard and joysticks, putting some sounds out, using the disk drive, and so on. Only trouble with it is, it's not much like the standard that Kernighan & Ritchie set all those years ago.

To round off C, I suppose that I'd better mention the book, 'Programming in C on the Amstrad 464-664-6128' by the extraordinarily prolific Ian ('Oops, looks like I've just written another one') Sinclair. It's published by Glentop at £8.95 (ISBN 0-907792-86-3). If you've never programmed in C before then it would make sense to invest in this well written book, although the examples given are in *Hisoft C* – that's the nonstandard type.

HiSoft Forth

Hisoft ● £49.95 ● CPM only

For a high level language, Forth is hard to read. Its proposers like to point out that it has a 'high development/ run ratio' – not only is it fairly fast to write with, it's also fast in running time. Not the most likeable of languages, and definitely one to try before you buy.

HiSoft Forth has been around for a fair old while now. It still has possibilities as a learning tool, but I wouldn't like to use it to program. Good documentation, though, and Hisoft do have excellent after sales support.

BCPL

Arnor ● £24.95 ● disk and ROM

BCPL is a systems design language originally written to aid people in writing operating systems for computers. As you might expect, this demands a fairly low level approach: the language must cope with a high running speed. BCPL only has one data type – the 16 bit word, which is quite simply two 8 bit bytes added together.

Arnor's BCPL is supplied on a disk for CPM (and CPM+) as well as Amsdos, the standard operating system. For those with a ROM board a ROM version is included. An editor to enter the programs is included, although it's really not very useful, and you'd be advised to get a better one. Even better use a word-processor.

The manual contains a number of examples, and there are some more on the disk (including Space Invaders). Arnor's BCPL is very good – which is just as well, since it's the only version!

other uses. For instance, **Forth** was originally developed to keep track of where radio telescopes point. Nowadays it's popular with many programmers where speed and input/output abilities are needed.

Cobol was created to write business application programs, like databases, spreadsheets, accounts and such like. It's now getting on a bit, but is still popular for its original purpose.

C, the most easily spelled (and punned about) computer language, is steadily gaining supporters nowadays. Originally it had to have the Unix operating system to work, but people found its capabilites so striking that versions have been written for virtually every machine under the sun.

It's also good for anyone wishing to transfer programs from one make of computer onto another – a definitive standard was written by the language's creators, Kernighan and Ritchie.



Up to the job

Over the past few months the majority of language enquiries have come from students about to go on a college or university course. The reason seems to be the

Compile – or interpret?

'High Level' languages referred to in the text have to be translated down to the central processor – they are not 'spoken' by the chips themselves. This translation process can be divided into those that are *compiled*, and those that are *interpreted*.

***Compiled* languages are turned into machine code before they are run. This means that they're nearly as fast as machine code. However, because the original program is generally lost before being run (to save memory), editing these programs can be time consuming – you will probably have to re-load the source code.**

***Interpreted* languages go through the conversion process while being run. Locomotive Basic – that's the type that comes built into every CPC – is like this. These languages are slower, because the conversion process takes time as well as the actual program. Changing the program, however, is much easier, because it's always in the machine anyway.**

Which do you go for, interpreted or compiled? That's up to you – the best choice may well be to write in an interpreted language, then have the program compiled into machine code when it's finished!





Logo

Logo might seem a rather strange inclusion here – after all, every disk-CPC owner gets this 'kiddie' language free. The manuals for the 664 and 6128 devote 40 plus pages to the subject. After which Logo is dropped, never to be covered again.

● Logo – more than a 'kiddie' language!

This is a waste, because Logo is a very useful language. Its main purpose is to educate people about geometry – you know, angles, curves and so forth. When Logo was originally written, the idea was that you could connect up a robotic turtle to your computer. This would then follow the Logo commands of a program, to give a permanent record of what that program had acheived. Unfortunately, DR Logo does not support a turtle. Ah well, another missed opportunity...

A good guide on the subject of DR Logo is, 'Using DR Logo on the Amstrad', by Martin Sims (ISBN 0-907792-56-1), £8.95, published by Glentop. It contains lots of listings and examples, and really informs and educates the reader. Maybe it does leave off just a little too early, but it's much better than the manual's rather dull attempt at tuition.

Pascal

People who have to teach others about computer languages like Pascal. It's structured (easily read), compact and fast, because it's compiled. There are plenty of books on it, and it has a standard – the authors Jensen and Wirth wrote one back in 1975.

Versions available:

Pascal80

Hisoft ● £49.95 ● disk only

Reviewed in *AA12*, *Pascal80* works only under the CPM enviroment. It operates best under CPM+, but if you have a disk drive then you can use it. Contained with the program is *ED80*, a text editor also written by Hisoft. Although it doesn't contain much in the way of frills, it's relatively easy to use and it gets the job done. The language is well laid out, and the manual is excellent. A library of ready made routines for GSX usage is also included.

JRT Pascal

Wacci ● £10 disk only

JRT Pascal is a public domain program available on Wacci (talked about elsewhere on these pages).

They're WACCI, oh so very WACCI...

Look at the prices asked by the likes of Arnor and Hisoft and you may well be astounded to learn that the Wacci Public Domain library contains three language disks. These are complete languages, and need no other bits to run, except for CPM or CPM+.

CPM Disk 2, for example, contains versions of C (cutdown, it must be said), Prolog (artificial intelligence), EBasic (compiled Basic similar to Microsoft Basic), and Lisp (list processing – powerful at processing lots of data). All this, together with disk documentation, plus *Newsweep* (Richard Monteiro's favourite CPM utility: it can compress and decompress files). All this for £5.50. HOW MUCH? That's right, £5.50: and all the programs, being in the public domain, can be freely swapped, amended etc, just so long as they are not re-sold.

CPM Disks 6 and 7 contain JRT Pascal, a really excellent implementation based around CPM. If you're trying to get a full (and cheap!) Pascal, this is well worth a look. For £10, you get Ebasic thrown in as well. Not bad at all.

The only minus point about PD software is the hassle newcomers have in getting the compacted software onto a regular disk. If you can do this, though, you should be able to get to grips with the various languages without too many problems.

CPC's popularity as an all around computer. It's clear that, when people need serious software (and languages are just an example) the power and ability of the Amstrad are up to the task.

As this article suggests, there is certainly no shortage of choice when it comes to languages on the CPC, and you need no reminding what an excellent machine it is for this kind of serious application.

Just one final note – Hisoft do the Nevada CPM+ implementations of Pascal or Cobol for £39.95 and £49.95 respectively. ●

Contacts

Arnor	0733 239011*
Hisoft	0525 718181
WACCI	01 898 1090
Gremlin	021 356 3377

*Note: *Arnor are moving, but at the time of going to press they didn't have a new phone number. Their new address is:*
611 Lincoln Rd, Peterborough

Basic

Locomotive Basic is a good dialect to learn. It incorporates most of the features of Microsoft Basic, which most people don't learn about now – this was *the* Basic to learn if you had a CPM machine.

One of these features is the WHILE-WEND command. This enables people to learn about structured programming, a technique that makes programs easier to read, and is much very desired by today's educationalists.

If you have written a program using Locomotive, the following may be of interest...

Turbo Compiler

£9.95 ● Hisoft ● disk only

This product turns your everyday slow running Basic program into a number crunching compiled version. Admittedly it has some limitations – the Basic program can have a maximum length of around 12K, and no floating point numbers are allowed. 664 and 6128 owners will be less than pleased to discover that this product doesn't accept the extra statements of Basic 1.1.

The good points about the compiler are that it compiles very fast, and it adds only 3K at most to a program's length. Let's face it, unless you can get hold of the Laser Compiler from Laser Genius (they created some excellent stuff – whatever happened to them?) this is the only genuine compiler you can get for the CPC's. And at £10, it's not going to break the bank.

Utopia

£24.95 ● Arnor ● ROM only

This is a toolbox, a suite of programs designed to enhance a language – in this case Locomotive Basic itself. Although there are quite a number of these, *Utopia* is the one to go for, simply because it's on ROM.

It was not always thus. The original program lacked features, and the manual wasn't the bee's knees. Fortunately version 1.2 is now the standard. Options available range from the ability to boot programs pressing CTRL and ENTER, up to having a disk and memory editor on hand whenever needed.

Utopia is good news, if only for the amount of time it saves on doing mundane tasks. The only sour note is the price – but it's not exorbitant, just realistic.

HOT TIPS

Pat McDonald brings hope where there was despair

Smart keys

The program **Smart II** (on our third birthday cassette) caters only for joystick owners. For those who aren't in that elite club, you can change numbers after the INKEY statements thus:–

100 change INKEY(75) to INKEY(22) \=Right
110 change INKEY(74) to INKEY(30) /=Left
120 change INKEY(72) to INKEY(69) A=Up
130 change INKEY(73) to INKEY(71) Z=Down
140 change INKEY(76) to INKEY(18) ENTER=Fire

This moves the arrow about, for menu selection at the top of the screen:

2160 change INKEY(75) to INKEY(22) and INKEY(74) to INKEY(30)
2170 change INKEY(72) to INKEY(69) and INKEY(73) to INKEY(71)
2190 change INKEY(76) to INKEY(18)

These keys are used when you select the EDIT fucntion from the EXTRAS menu. You move the block around the rectangle using the keys, setting or resetting the various inks.

Pokish Ahlunlia, Corby

Thanks to John Love, of Bellshill, who sent in a similar tip. Incidentally, if anyone out there has a lot of empty menus on Smart II, *then unplug (or turn off) all the extra ROMs you have.*

We welcome your contributions to *Hot Tips*, and the best published each month earn their author £20. So what are you waiting for?
Address your work to: *Hot Tips, AA*, 4 Queen St, Bath, Avon, BA1 1EJ.

Type-In redundant?

Regarding your note on page 53 of *AA35* (on the disk compactor), I too had difficulty with the program. It baulked at copying a file which had no file extension.

Do not despair: you already have a disk compactor which requires no typing in of a lengthy listing. I refer to PIP. If you use PIP, e.g. B:=A:*.* to copy all the files on your disk, a disk map will show you that all your files will have been collected together on consecutive sectors and tracks.

G W Duell, Scarborough

Make a clean contact

Tin oxide is a resistive material which forms on circuit boards and causes low current signals to be lost. When erratic computer behaviour results, it is often diagnosed as something more serious requiring expensive service.

Often the printed circuit boards in computers are not gold-plated where edge connectors meet other boards. Oxidation results and tends to recur. To avoid this and repeated needs for service, first use a shaped-edged rubber cleaner to reach all surfaces of the edge connector. (*An ink eraser fits the bill – Pat.*)

Then clean the contact surfaces with WD40 applied to a cotton swab. This coats the cleaned surface so the oxidised contact problems won't recur for a long time. The two-step process cleans the contact points, then protects them from oxidation.

Arthur Emperatori, Publicis PR

A tyro speaks out

I was very interested in your article in *AA30* explaining how to upgrade a 464 into a 6128. I have a 464 with a disk drive, and I am pleased to say that I have successfully replaced the 464 ROM with a 6128 ROM. All I need to do now is to obtain a 64K expansion RAM...

I have done quite a lot of soldering, but not with very small joints as on the CPC ROMs. So before starting work I sought advice from someone with this experience.

I was recommended to use desoldering copper braid which in conjunction with a soldering iron 'sucks' the solder out of joints by capillary action. I unscrewed the printed circuit board before starting work so that I could get at both sides easily. As I was concerned not to damage the board, I had to take great care and the whole job took me about four hours to complete. I removed the solder from both sides of the joints, cutting off bits of the braid as they became loaded with solder.

When I had got as much solder as I could out of the joints, I inserted a small flat ended screwdriver at one end of the old ROM and whilst running a soldering iron along the joints gently eased the chip from the board. I did this from both ends of the chip. I made sure that the circuit board was clean and had no bits of loose solder on it, and also that the holes were clear, ready to accept the new ROM. (I used a soldering iron plus a fine needle for the latter check.)

Soldering in the new ROM was, as expected, much easier than removing the old one. It was a great relief when I got the '128K' sign on message after switching the computer on again. Incidentally, my 464 did not have just one plug for the keyboard, it had two. I undid the one at the tape drive, but avoided the other as I felt I might encounter some problems with it. I used a 25 watt soldering iron with a tip of 1/16".

I hope my efforts may be of some help to others who, like me, have no previous experience of desoldering from fine printed circuit boards. I have a green screen and an MP1 modulator: will I now have to get an MP2, or can I still use my MP1? I look forward to seeing further items in *AA* on the upgraded 464.

Neil Currie, Hertford

You certainly can still use the MP1.

As for further items, Paul Calter (one of our regular hardware columnists) is looking into a 64K RAM expansion. No promises yet – keep your fingers crossed.

£1·99

Christmas List

- Rebelstar II — SPECTRUM · C64
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- ~~Snooker Table~~
- Night Gunner — SPECTRUM · AMSTRAD
- ~~F.A~~
- Peter Pack Rat
- ~~Video~~
- Cauldron II
- International Speedway
- Motocross Mania — C64
- Billboard — SPECTRUM · C64 · AMSTRAD · MSX
- ~~C.D Player~~

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Silverbird and Silverbird Logo, registration applied for.

All available on Spectrum Commodore 64 and Amstrad unless otherwise stated.

WORDS WORK

Word processing help with Pat McDonald

Short memory

I have been using *Masterfile III* on my 6128 very successfully for a couple of years now on a variety of subjects, especially on my rather large and ever increasing photographic library. I find the maximum file length of 64K rather limiting, and have to keep splitting the main file up. I'd like to fit one file onto a disk, and ignore the **.BAK** file. Can I do this? I am considering buying a large capacity second disk drive, either 5.25" or 3.5" – would I then need a larger memory expansion, e.g. 256K?

Should I just go for *Protext Filer*, or does this also have a limited memory?

Any reason why you never mention Citizen printers in your pages? Even the latest *AA36 Buyers guide* for printers ignores them. Several other people over here besides myself have the 120D model and we are extremely pleased with it. Maybe Citizen should advertise with you?

Why on an Amstrad 6128 (colour monitor) does **CTRL-ENTER** give **RUN"**, and on a 6128 green screen it gives **RUN"DISC**?

Richard T Mills,
Cork

Protext Office has an even smaller file capacity. AtLast Plus lets you have databases as big as a disk: see AA30 for a survey on databases. The **.BAK** *facility is built in to the operating system, so changing it will be tricky. Your best bet is a larger capacity drive – see this month's Problem Attic. No, you don't need a larger memory to use a different disk size.*

I'll bow to public demand, and say that I'll at least try to cover Citizen printers. Getting hold of a review sample? that's my problem...

The green 6128 has an external ROM plugged into it – probably Utopia or Protext. For binders, see our special offers section.

Liked your tip for clanking disk drives by the way: coming soon.

Get in on the act!

We want your mail. **Get your contributions sprinting towards: *Words Work, Amstrad Action*, Future Publishing, 4 Queen St, Bath BA1 1EJ.**

Eight bit port in a storm

I recently bought the print enhancer *Qualitas Plus*. A problem I have is that, because I use CPM+ *Protext*, I have to save my files onto a disk before using *Qualitas* to print them in stand alone mode.

Back in AA28 you started printing various 8 bit printer port modifications and programs. The one I used was the final one you printed, for the 6128. It worked fine, and I even wrote a printer utility to simplify my life.

Things were fine until I bought *Qualitas*. Your 8 bit printer port and *Qualitas* are not compatible: both alter the jumpblock, and clash with each other.

I contacted Seven Stars and they gave me a few hints which enabled me to write a new loader which incorporates both *Qualitas* and the 8 bit port driver. Remember though – this is 6128, *Qualitas Plus* only. Use it instead of the standard **QUAL128** loader.

```
1000 REM Qualitas Plus 6128 only
1010 REM Thanks to Seven Stars
1020 REM By M C Lycett
1030 REM Amstrad Action December 1988
1080 CLS:MODE 2:PRINT "This program can only work
     with QUALITAS PLUS on a 6128. You may choose
     up to   three fonts from the following list,
     and load them into memory. This program
     will then allow you to print out ASCII files
     using QUALITAS."
1090 PRINT "You may choose from the following: ":
     CAT
1100 PRINT:PRINT:PRINT " Type in the name of the
     main font...";:INPUT main$
1110 IF main$="" OR LEN(main$)>8 THEN 1100
1120 PRINT " Now the second font, or RETURN if
     not required...";:INPUT second$
1130 IF second$="" THEN 1160 ELSE if LEN(second$)
     >8 THEN 1120
1140 PRINT " Finally the third font, or RETURN if
     not required...";: INPUT third$
1150 IF LEN(third$)>8 THEN 1140
1160 GOSUB 1300:Rem Install 8 bit printer port
1170 SYMBOL AFTER 256:OUT &7F00,&C7: REM switch
     in bank 7
1180 MEMORY &3FFF
1190 LOAD "QCODE",&7540: POKE &7735,&34:POKE
     &7736,&77:CALL &7734
1200 LOAD main$,&64CE:REM Main Font Load
1210 IF second$<>"" THEN LOAD second$,&5268: POKE
     &78D2, PEEK(&78D2 OR 1)
1220 IF third$<>"" THEN LOAD third$,&4002: POKE
     &78D2, PEEK(&78D2 OR 3)
1230 CLOSEIN:MEMORY &9FFF:OUT &7F00,&C0:REM switch
     bank 7 out again
1240 RESTORE 1250:FOR addr=&BE18 TO &BE38:READ
     pok$:POKE addr,VAL("&"+pok$):NEXT
1250 DATA f5,c5,d5,e5,01,00,7f,2a,39,00,5e,36,c9,
     57,3e,c7
1260 DATA ed,79,7a,cd,2b,bd,3e,c0,ed,79,73,e1,d1,
     c1,f1,37,c9
1270 POKE &BE2C,PEEK(&BD2C):POKE &BE2D,PEEK(&BD2D)
     :REM fetch jumpblock
1280 POKE &BD2C,&18:POKE &BD2D,&BE:REM patch
     jumpblock
1290 PRINT "QUALITAS and 8 bit port now ready":NEW
1300 REM 8 Bit Printer driver patch
1310 REM
1320 REM
1330 RESTORE 1380
1340 FOR addr=&A000 TO &A020:READ a$:POKE addr,VAL
     ("&"+a$):NEXT addr
1350 POKE &A012,PEEK(&BD2B):POKE &A013,PEEK(&BD2C)
     :POKE &A014,PEEK(&BD2D):
1360 POKE &BD2B,&C3:POKE &BD2C,&0:POKE &BD2D,&A0:
     REM patch jumpblock
1370 CALL &A017:RETURN
1380 DATA c5,01,00,f6,ed,49,07,30,05,01,20,f6,ed,
     49,0f,00,00,c1,00,00,00,c9,00
1390 DATA 2a,1f,a5,cd,58,bd,c9,00,00,00,00
```

M C Lycett, Gillingham

STOP PRESS
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Desktop publishing – doing page design and printing on a computer instead of the old cut-and-paste and linotype printing method – is the boom area of low-cost computing. All the national dailies are switching over to DTP methods – and so are thousands of CPC users, to produce everything from newsletters to menus, from posters to invoices.

Want to try your hand? The best DTP package for the CPC – by far – is ***Stop Press* from AMS**. It is now available at an all-in price of **£64.99** – £15 off the recommended retail price, but also with a free mouse mat enclosed to help you get the most from this superlative package. The Swiss-made mouse is one of the best available and offers high resolution movement all over the screen. The software, based on an easy-to-use icon-driven menu system, makes the best use of this sensitivity, featuring as it does a wide range of facilities that would probably cost three times as much on another machine.

Order form on page 88!

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PROBLEM ATTIC

Is it a bird (etc.)? Nope, it's only Pat McDonald

Age old question

I am having trouble transferring your free cassette to disk. When I run the tape all I get is a Found message throughout the tape. Could you please tell me what I am doing wrong? I cannot get the programmes to transfer to disk. My computer is an Amstrad 6128.

Is 70+ is too old to start computing?

J Wilton, Bognor Regis

To transfer Dizzy to disk, the S key must be pressed and held down until the game has finished loading. The side B utilities must be saved using a program called ONDISK, *which is located right at the end. To use it, simply* RUN"ONDISK" *and press* RETURN. *Once it's loaded, it will ask you to rewind the tape. So rewind to the beginning of side B, and press play. The utilities will now transfer, one by one.*

On the other hand, if you are talking about programs in general, then prepare yourself for some bad news. Most commercial software is protected against copying –including transfer. This is in spite of your right to back up a program you have bought onto a different medium – tape to disk, disk to tape, tape or disk to ROM. To accomplish this feat, you will need a special tape/disk transfer program. Watch the adverts from people like Nemesis and Goldmark systems, who sell such programs.

The reason why programs are protected is piracy. Technically speaking, it would be easy to copy programs once protection had been broken. Commercial pirates don't use such methods, but that's generally held to be irrelevant by software companies.

As for your age, many of our retired readers see computing as a new challenge. There are young people who cannot understand them, and older people who can. The attitude of 'It's too new fangled for me' is just a state of mind.

Protection crackers

A friend of mine owns a 'reset switch' for his computer (not an Amstrad). With this he can load a game, reset the computer, type in a poke and use the SYS (CALL) command to re-run the game. This way, he does not need to use long protection crackers. Is it possible to do this on a CPC? Do you connect pins 41 (reset) with 49 (GND) together?

Some Amstrad monitors have an extra 12V DC. I don't need this, because I have a 464. What value resistor should I connect in series with your autofire project in *AA34*?

Finally, please could you publish a M/C program that would load a program while executing another program. The EVERY command does not work. My friends games play music while they load, and one even lets you play space invaders! Surely the Amstrad can do better?

Shabaz Yousaf, Slough

Your method will work for reseting your computer, although only a momentary contact is needed. The problem is, when the Amstrad is reset it wipes the part of memory where games normally sit. It does not, however, wipe the extra memory of a 6128 – not that the fact is of much use for what you want.

You don't need to cut the voltage to the circuit – the chip will function in the range of 4.5 V up to 15V. You may find that using a higher voltage slows down the rate of fire somewhat.

As for a machine code loader, there are problems in CPC loading in that the interrupts are turned off by all the loading routines. That's not to say it's impossible – Firebird had a loader that played music while games loaded. It wasn't popular, because more often than not these special loaders are extremely difficult to get working. Any we get we'll print.

Going for a drive

I want a second disk drive to use with the DDI-1 I already possess. The computer is a CPC464 upgraded with a 64K RAM pack and 40025 chip to mimic the 6128. The second drive would have to handle at least 400K of disk space and be used to store databases in conjunction with the *Atlast Plus* database program.

The FD1 Amstrad drive is not powerful enough for my use. Can you recommend others that may be suitable as a second drive? If this involves a difference in disk size such as 3.5' or 5.25" can I still format the disks using my CPM Plus program which is on a 3" disk, controlling the second drive from the first?

N A Elliot, Bexley

To have a second drive of 400K, you will need a different size of disk. 5.25" are cheaper, but 3.5" are more robust. You need a special disk formatter, which is supplied with the disk. KDS (☎04853 2076) do various products for large capacity drives, as do Siren (☎061 228 1831). These include RAMDOS and RODOS, which are general purpose software packages for interfacing disk drives. I intend to do a comparative survey of second drives soon.

Tricky

Is it possible to connect an Oric MCP-40 printer plotter to a CPC? My previous computer system was an Atmos, and I would like to produce graphs and technical drawings. Using a dot matrix printer gives jagged lines and circles.

David J Anderson, Hawick

If you mean, plug it into directly, then the answer is 'maybe' (oh very helpful I'm sure – ed). *Plotters can either plug in through a serial port, through a centronics compatible printer port or through something called an IEE488 port. Yet more variations exist...*

The first two are OK, because serial (RS232 to most people) ports are widely available, as is software to drive them. Centronics plotters would plug into the Amstrad's printer port. The only sticky piece would be a IEE488. This is an engineer's standard, and getting such an interface and controlling software isn't a simple task.

Try a local computer club, or a local CPC techie who understands the above paragraphs. It helps if you have pin outs of the plotter's connector, as well as a technical manual. ●

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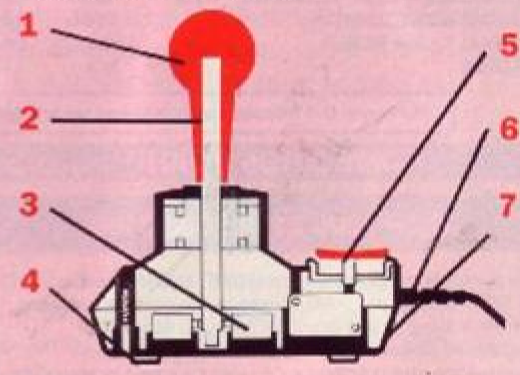
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FULLY AUTOMATIC – JUST ONE KEYPRESS * ONLY ONE PROGRAM TO RUN WHICH FINDS THE SPEEDLOCK TYPE AUTOMATICALLY * WILL TRANSFER ORIGINAL AND MANY OF TODAYS SPEEDLOCK PROGRAMS * NO FIDDLING OR MEDDLING – WRITTEN WITH THE AMATEUR IN MIND * AUTOMATIC DISC FILENAMES * NO WASTED DISC SPACE – SAVES THE CORRECT AMOUNT OF GAME CODE * SAVES 99% OF OPENING SCREENS * SCREENS SAVED IN THEIR CORRECT COLOURS * COMPRESSES SCREEN CODE TO SAVE EVEN MORE DISC SPACE * FASTER LOADING TIMES FROM DISC BECAUSE OF SHORTER FILE LENGTHS
SPEEDTRANS PLUS2 transfers over 200 programs to Disc, some of the latest it will do are MADBALLS, FREDDY HARDEST (both games) BASKET MASTER, MATCHDAY II, PHANTOM CLUB, GRYZOR (main program), SUPER HANG ON.

Those latest Speedlock types can be identified by the whole screen flashing with horizontal bands of colour immediately after the first file has loaded. Do remember that **SPEEDTRANS PLUS2** does not save all the memory in the hope of having saved all the game. It saves exactly the right length of code. All screens are saved in compressed form – some as little as 4K (Basket Master) - thus saving even more disc space.
SPEEDTRANS PLUS2 is the most sophisticated Tape-to-Disc transfer utility for SPEEDLOCK protected programs ever published. It will certainly transfer more games than any other Speedlock transfer program on the market and with much greater ease. Other transfer programs require you to know how long the game code is so that you may run an alternative program for the long games which does not save the loading screen. This is done because they do not make use of the extra memory available on the CPC 6128 or from the use of an extra RAMPACK (DK'Tronics 64K or greater.) This program is highly intelligent in that it first reads the loader from the tape and establishes which type of protection is in use from 6 alternatives. At the end of the loadit then finds out how long the code is and if it is too long to be saved to one file it will move the excess code into the banked memory and save the game in two parts and write the appropriate loader program. The screen will also be moved into a bank and compressed before saving. This can mean screen files as small as 4k (Basket Master) depending on mode and content. All this adds up to a lot less disc space being used than with other transfer programs and you will nearly always get the loading screen saved. The exception to this is when there is no loading screen (as in SCRABBLE) or when the screen is blanked out and more code is loaded into the screen memory, as in BMX SIMULATOR and MADBALLS for example. Try getting a screen with Multiface or any other imager. These imagers are only capable of saving what you have in memory at the time the button is pressed. What happens in multi part games? you have to press the button for each part thus wasting precious disc space. They also save far too much code and therefore waste even more space and saving too much code means longer loading times from disc. Programmers are now checking to see if you have an imager plugged in an if you have the program will not load. Imagers also have to be in place before you can reload your program and saved programs can only be reloaded in to the machine in which they are saved. **SPEEDTRANS PLUS2** creates totally stand-alone files and if you have nother CPC even without extra memory they will run prefectly. It also displays the saving name on screen at the start of the load with all except the very latest games. In all cases the disc saving name is displayed while the save is carried out. To run the transferred game just RUN this name. Another intelligent feature of **SPEEDTRANS2** is that the very first thing it does is to find out which drive it is in. This means that if you have a two drive system you may run the program from drive B by typing RUN "B:DISC" or :B:RUN"DISC. However the saving will ALWAYS be to DRIVE A so with a single drive you must change the disc when prompted on screen.

DISC:- UK £14.99 – EUROPE £16.25 – REST OF WORLD £17.00
Upgrade your SPEEDTRANS PLUS – send your disc together with: **UK £2.00 – EUROPE £3.25 – REST OF WORLD £4.00**
Upgrade your SPEEDTRANS TAPE send your tape together with: **UK £12.00 – EUROPE £13.25 – REST OF WORLD £14.00**

* LOW LOW PRICES * ARNOR SOFTWARE * LOW LOW PRICES *

Program	UK – Disc	Eprom	Europe – Disc	Eprom	Rest of World – Disc	Eprom
PROTEXT OFFICE * NEW *	29.50	N/A	30.75	N/A	31.50	N/A
PROTEXT FILER * NEW *	19.50	N/A	20.75	N/A	21.50	N/A
PROTEXT	21.50	34.50	22.75	35.75	23.50	36.50
PROSPELL	19.50	29.50	20.75	30.75	21.50	31.50
PROMERGE (ROM=PROMERGE PLUS)	19.50	29.50	20.75	30.75	21.50	31.50
MAXAM * THE BEST! *	21.50	34.50	22.75	35.75	23.50	36.50
MAXAM 1 1/2 * NEW *	N/A	24.50	N/A	25.75	N/A	26.50
UTOPIA	N/A	24.50	N/A	25.75	N/A	26.50

Purchase the Rombo romboard and we will give you a futher £3.50 discount on each rom program

ROMBO ROMBOARD UK – £31.00 EUROPE – £33.00 REST OF THE WORLD – £35.00

DMP 2000/2160/3000/3160

The printer buffer presently in the DMP 200/3000 series is a 2K RAM. Most of this RAM is used by the printer's operating system leaving an average 1/2K as buffer space. Our upgrade kit contains a new static RAM chip which will increase the printer buffer by 6K (about 4 pages of text). This upgrade allows all Download Characters to be re-defined allowing the user to design special characters for use with scientific and other programs. The kit is supplied with full pictorial instructions to allow the amateur to carry out his own modification (the DMP2160 takes about 7 minutes). If you don't think you are up to it your local TV shop can do the job in approximately 15 minutes

UK £12.50 – EUROPE £13.75 – R. of W. £14.50

FIRETRANS

This utility will transfer a number of FIREBIRD programs from tape to disc automatically including most opening screens in full colour. FIRETRANS will work equally well from tape but will be more convenient to use if converted to disc with SAMSON/Transmat. It will transfer WILLOW PATTERN, RUNESTONE, CHIMERA, GUNSTAR, PARABOLA, REALM, SPIKY HAROLD, BOOTY, DON'T PANIC, GUNFRIGHT, STARGLIDER, NINJA MASTER, HELICOPTER, and some version of THRUST, HARVEY HEADBANGER and BOMBSCARE.

TAPE:- UK £5.00 – EUROPE £6.25 R. of W. £7.00
DISC:- UK £8.50 – EUROPE £9.75 – R. of W. £10.50



COMPACTOR



COMPACTOR will allow you to load a standard 17K screen, set the mode, border and ink colours and then save it as a compressed screen contaning its own mode and ink colour information. Most screens compact down to an average of 9K which is an enormous saving on disc space. Loading time of compressed screens is also proportionately reduced.

TAPE:- UK £5.00 – EUROPE £6.25 R. of W. £7.00
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TRANSIT

TRANSIT is a disc-to-disc file copier which handles file upto 40K in length in one pass. It will copy from drives A-A, A-B, B-B and B-A making an ideal utility for use with 5 1/4" second drive.

TAPE:- UK £4.50 – EUROPE £5.25 – R. of W. £6.50
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This utility disc contains 5 programs, all menu driven. They are SAMSON, TRANSIT, OCLONE, VIEWTEXT and the fast disc FORMATTER.

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DISC:- UK £14.99 – EUROPE £16.25 – R. of W. £17.00

NEW SHAREPLAY NEW

THE STOCK MARKET SIMULATION
(All CPC's)

This is a serious educational program for 1 to 6 players and provides all the enjoyment of playing the stockmarket without any risk of personal bankruptcy!! Each player can buy and sell shares and the target is the first to reach £1,000,000. The program includes a stockholding portfolio listing the shares purchased, their number, cost and market value. Bank balances are also shown. Graphical representation of market fluctuations are given in the form of a bar graph. Also included is a high score table. Scores are automatically saved at the end of each session.

DISC:- UK £14.99 – EUROPE £16.25 – R. of W. £17.00

NEW WORDSEEK NEW

THE WORDSEARCH PROGRAM
(All CPC's)

This educational program will tax even the most agile mind. The aim is to find the hidden words in a 15 by 15 puzzle within a set time limit of 30 seconds. The time limit is extended for every correct letter of the current word found. You may create your own puzzle consisting of up to 10 words which can be saved to disc and used at any time. You may only retain one puzzle at a time but if you choose not to use your own puzzle then the program will randomly select one form the library of 50 on the disc. All of the puzzles in the library are made up of 10 words each consisting of 1x8 letter, 1x7 letter, 2x6 letter, 3x5 letter, 2x4 letter and 1x3 letter words. This ensures equal difficulty regardless which one is randomly loaded. The program contains a print option (for Epson compatible printers) allowing a hard copy to be made of any puzzle created. Keyboard/Joystick options are also available.

DISC ONLY – U.K. £14.99 – EUROPE £16.25
REST OF THE WORLD £17.00

NEW TUNESMITH NEW

TUNESMITH is a simple to use sound utility which allows you to use the keyboard to play and record your tunes. No knowledge of music or Amstrad sound commands is required all you need to be able to do is whistle the tune you play or record. The octave and period of notes is variable and the program includes synthesizer and vibrato effects. **TUNESMITH** will save any tune as a basic file which can be RUN, CHAINED or MERGED into your own program.

DISC:- UK £14.99 – EUROPE £16.25 R. of W. £17.00

SAMSON

SAMSON has been developed by us to transfer not only the normal programs but also many of todays where the code is much longer. **SAMSON** differs in many ways from other Tape-to Disc utilities, the main differences being: * SAMSON retains original file suffixes (SAMSON.SCN will be saved as SAMSON.SCN) * Improved file relocation method * Elaborate Tape-read/Disc-write system which reduces Tape Motor, Slave Replay and Disc Drive Motor wear substantially. * A large reduction in tape transfer time is also achieved in all but a few cases * NEW "SPLIT" option for todays longer games (we will be using this option in future routines) * All file information is displayed on screen and can be echoed to your printer if needed. SAMSON also transfer itself to disc.

TAPE:- UK £7.50 – EUROPE £8.75 – R. of W. £9.50
DISC:- UK £11.50 – EUROPE £12.75 – R. of W. £13.50

CHARACTER DESIGNER

(All CPC's)

- **REDEFINE YOUR PRINTER DOWNLOAD CHARACTERS**
- **REDEFINE THE COMPUTER SCREEN FONT**
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Takes all the hard work out of character designing making it a pleasure. The printer part of the program will only work if your printer is capable of DOWNLOADING and is EPSON compatible – see your printer manual. Works with 7 bit or 8 bit output (8 bit port). All the designing is done "On-Screen" so you can see exactly what you are doing. You can save your newly designed characters to disc and reload them at any time into a basic program and into most Word-Processors. The program also allows the user to redefine any or all of the keys on the keyboard. This feature will be useful for those who require an ASWERTY keyboard. The disc also contins twelve sample fonts for experimentation

TAPE:- UK £7.99 EUROPE £9.25 – R. of W. £10.00
DISC:- UK £11.99 – EUROPE £13.25 – R. of W. £14.00

FAST FORMATTER

The FASTFORMATTER will format one side of a disc in approx. 30 seconds with the choice of DATA, VENDOR or SYSTEM and its much easier then using your CPM disc.

TAPE:- UK £4.50 – EUROPE £5.25 – R.of W. £6.50
DISC:- UK £8.00 – EUROPE £9.25 – R.of W. £10.00

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Please write or telephone 07072 71529 for full brochure.



DEAR BANK MANAGER (gulp)...

Having blown his month's wages reviewing *Course Master* (p.14), how can Pat McDonald recover his credit-worthy status? *Home Finance* to the rescue!

HOME FINANCE

Sterling Software, 7 Ingham Close, Selsdon, Surrey CR2 8LS
● £14.95 tape

Looking after your money can be complex. What with bank statements, plastic money, easy loans – to say nothing of mortgage arrangements. Then there's all the living expenses, one off items like car repairs *(since when were car repairs one offs? – ed.)*, savings, and buying a copy of *AA* every month.

This is the sort of task for which, many people believe, computers are ideally suited. Looking after lots of simple calculations? Printing out a permanent copy? Saving items onto tape or disk? Sure, sure, the jobs themselves are easy enough to do: but it takes a computer program – like *Home Finance* – that can turn a pipedream into reality.

Loads of trouble

It may seem unfair, but I'm starting this review with the worst aspect of the package – understanding how to get it up and running! I loaded the program: no problems. Then *Home Finance* asked me for the name of a datafile. Now, you receive two tapes, one with the program on it, the other marked 'File tape'. If I just press **RETURN**, then try and load a demonstration file from the latter cassette...

Nothing happened. After some frenzied reading through the manual, and a word with Sterling Software, it came to light that the demonstration file is actually on the program tape, after the main file. It does say this in the manual – two pages from the end. But it's so obvious, isn't it?

I'm happy to say that that has been the worst part of using *Home Finance*. Other hair-tearing points include the manual, which is just a list of the functions available. There's not a lot on why you would want to do something, only on how.

Setting up

Installing any computer budgetting program takes time and care. The data structure must be 'customised' to exactly what you want: in layman's terms this means setting up and naming the various accounts.

An account is simply an area through which money passes. It can be an expense account (money going out), a storage account (where money is held until being spent) or an earning account (typically a salary). The organization is in two stages: a) an expense account is set up, with a name – for example, travel expenses. This is then tied to an account group – where the money really is – such as a bank account.

Account and group account numbers can be in the range of 1 to 30. One of the more novel features of *Home Finance* is the ability to enter a statement from a group account. So, suppose you get a bank statement detailing all the cash that has been placed into and taken out of your bank account. You could then input this into the computer, and tie in the cheque numbers etc. with all the times you bought petrol, paid road tax, bought a season ticket, and so on.

This is a 'one off' payment. For regular payments, it makes sense to have a standing order or direct debit – these are authorizations enabling transfers of money out of your bank account without you doing more than signing a piece of paper. These can be accounted for automatically by *Home Finance* – but only ones that are monthly. This shouldn't be too limiting in practise, although there are people who need direct debits every week.

The competition

Way back, in the mists of time (*AA18* to be exact) I reviewed something called *Plan-It* from Database, the people who did *Mini Office II*. This was similar to *Home Finance* in that you could enter various transactions from accounts into other accounts. You could only have 24 accounts (compared to 30 for *Home Finance*), and they could not be tied to different forms of payment like ready cash, bank account, credit card, etc.

Instead, payment for a given expense could come from any account. So *Plan-It* was more flexible in this respect, but *Home Finance* is actually better because of it! Why? Well, the whole idea of a budgeting program is to organise your accounts, rather than just record what a spendthrift you are. It's not just in this area – *Home Finance* really does discipline you.

There is no doubt, however, that *Plan-It* is immensely better in terms of presentation and documentation – so, like most things, you'll have to go for what you really prefer.

Up and running

Once you have got the accounts and any direct debits or standing orders sorted out, you'll have to start inputting all of your financial transactions. Generally you'll find that if you leave it at one day a month, the system works well enough.

I've found that one of the program's real strengths is its ability to look through all the transactions. The system for doing it is very easy. So, making sure transactions link from one account to another can be done quickly.

The capacity of *Home Finance* is 300 transactions, which may not seem a lot, but it should cope handsomely with most people's needs. It might be necessary to have one file per six months, but I think that 300 transactions should last out for a year.

One point to bear in mind is that the program is tricky to get working with a disk drive for the novice. The reason for this is that the program has been saved with protected Basic. Most tape-to-disk programs can't handle it – but some sort of effort by Sterling Software would have been appreciated.



● Standing orders, direct debits? No trouble!

Bear in mind that the purpose of the program is to keep track of all the regular, necessary expenses, and tell you just how much you have spare.

At this task, the program is competent, and for people who have used CPC utilities before it's a good buy. ●

GOOD NEWS	BAD NEWS
■ Forces logical structure on your accounts.	■ Tape only.
■ On-screen reports and indices are lucid.	■ Manual lacks clarity.
■ Not pricey	■ Getting started isn't easy.

FIRST BYTES

An assembly language series with Richard Monteiro

HACKERS ONLY

Along with the 700 or so well-documented Z80 instructions, there exist just under 100 hidden instructions. Zilog make no mention of them in their spec sheets. Indeed, Zilog pretend they don't exist. These extra instructions have been known about for several years, and many programmers use them for convenience or in protection systems.

There is no guarantee that these instructions will be present in the next generation of Z80s, but that shouldn't worry you. All Z80A processors have these instructions – and as the CPC has a Z80A that means that every CPC will be able to take advantage of these undocumented instructions.

Most assembler/disassembler packages don't recognise these instructions so it's often impossible to follow code that makes extensive use of these instructions. The next few instalments of Hackers will attempt to shed light on this subject.

With the exception of one shift command, all the hidden opcodes are concerned with IX and IY registers. Looking at the list of rotate and shift commands will highlight the apparently missing instructions:

LEFT	RIGHT
RLC	RRC
RL	RR
SLA	SRA
RLD	RRD
	SRL

The missing instructions, of course, being SLL or Shift Left Logical. SLL is the opposite of SRL, but doesn't work in an exactly-opposite manner as expected. SRL shifts the contents of a register to the right by one bit, bit 0 is copied into the Carry flag and zero is placed in bit 7. SLL should do the same except for shifting all bits left. It does shift everything to the left and it does copy bit 7 into the carry flag. What it doesn't do is place zero into bit 0. Instead it places a one. Following is a table of SLL instructions and syntax:

SLL (HL)	CB 36
SLL (IX+nn)	DD CB nn 36
SLL (IY+nn)	FD CB nn 36
SLL A	CB 37
SLL B	CB 30
SLL C	CB 31
SLL D	CB 32
SLL E	CB 33
SLL H	CB 34
SLL L	CB 35

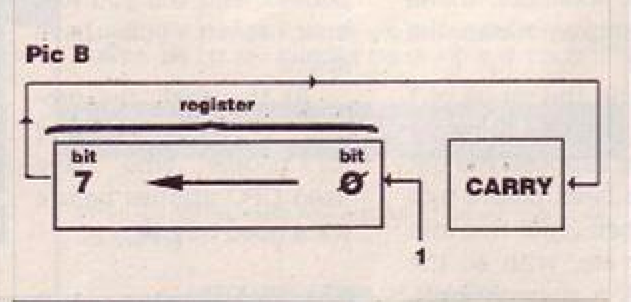
Send in a routine which makes use of any SLL command and you could win a crisp tenner (why are tenners offered as prizes always 'crisp'?). Competition closes on the 1st January 1989. Entries to SLL/First Bytes, Richard Monteiro, 4 Queen Street, Bath.

Pic A

register

bit 7 → bit Ø → CARRY

● SRL in action. The contents of a register are moved to the right by one bit. Bit 0 moves into the carry and zero get placed in bit 7



● The undocumented, and as far as Zilog are concerned non- existent, SLL. The contents of a register are moved to the left by one bit and bit 7 moves into the carry flag, but oddly a one (rather than zero) is plonked into bit 0

Micro Assembler is dead: long live *MAA!*

A company called Supersoft, it seems, have for some time been selling a product entitled *Mikro Assembler* for various Commodore machines including the Pet and C16. They're not too happy about us calling our assembler *Micro Assembler*, and have asked us if we'd consider changing our name. *Micro Assembler* is for a Z80-based Amstrad machine, it's public domain, it's written in Basic, the spelling is different and how many Commodore Pet users are there anyway? Still, if Supersoft are worried that *MA* might steal *Mikro Assembler's* thunder, or people might confuse the two products, then we're perfectly happy to avoid any confusion. So henceforth *Micro Assembler* is to be known as *MAA*, which stands for *Micro (Amstrad) Assembler*. OK lads?

Before we continue, let's just have a lightning revision course. Take notes. I'll be asking questions afterwards. OK: the early issues of *Bytes* dealt with bits, bytes and Basic's PEEK and POKE; shortly after came the concept of memory and the Z80's (that's the processor that makes the CPC tick) registers; then, after grovelling to Pat for all of five seconds, *Byte* followers were treated to an Assembler (*Micro Assembler* or *MA*, or *MAA* as it shall henceforth be known – see box) on AA's Third Birthday Cover Cassette. And that brings us more or less up to date. Only the simplest of assembly instructions have been dealt with – placing numbers in, and retrieving numbers from, memory and shunting values between registers.

This month's action-packed *Bytes* has a great *MAA* tweak, news of competition to MA in the form of Mikro Assembler and a bumper Hackers as promised. ●

Go on, tweak *MAA!*

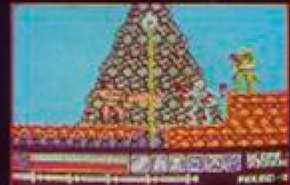
Come on! Get your *MAA* tweaks to us. Help other avid assembly programers get the best out of *MAA*. You could win a crisp tenner if you get your tweak published. Send your entries to *MAA* Tweak/First Bytes, Richard Monteiro, 4 Queen Street, Bath, BA1 1EJ.

Next month: A short memory monitor routine for *MAA*. And, OK so we lied about assembly programming this month. We just ran out of room. Look out for it next issue. Honest!



THE ARCADE COMPILATION OF THE YEAR

TAITO® COIN-OP Hits



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RASTAN The Warrior King. Lands that produce men of legend, dragon slayers, lie in his shadow – guardians of evil fear his fire spewing sword, the axe he wields as swift as lightning. State of the art programming makes a true simulation of the Arcade for your home micro, enjoy superb graphics and realistic action as RASTAN takes on a world of dangers – magical wizards, fire breathing lions, bats, snakes, skeletons and finally the living dead. Is it more than you can handle?



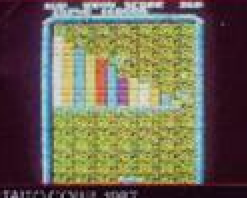
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SLAP FIGHT You are the pilot of the Slapfighter and must destroy the evil alien swarms which confront you, wave after deadly wave on the ever hostile planet of Orac. To aid you in your challenge collect icons and substantially increase your fire power and speed. Superb graphics and split second timing give this game an addictive edge.



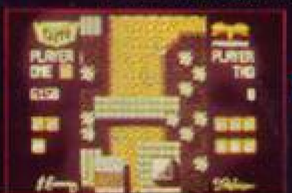
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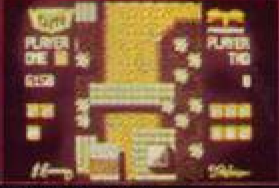
RENEGADE REBEL WITHOUT A CAUSE? In the knife-edge world of the vigilante there is no place to rest, no time to think – but look sharp – there is always time to die! From the city subways to the gangland ghettos you will always encounter the disciples of evil who's mission it is to exterminate the only man on earth who dares to throw down the gauntlet on their path – the Renegade. PLAY RENEGADE...PLAY MEAN!



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ARKANOID The era and time of this story is unkown. After the mothership "Arkanoid" was destroyed, a spacecraft "Vaus" scrambled away, only to be trapped in the void... You control the Vaus and have to penetrate 32 levels and then confront the "Dimension Changer" whom you must destroy in order to reverse time and resurrect the "Arkanoid." Frantic action and split second timing combine to produce the most addictive and compulsive game.



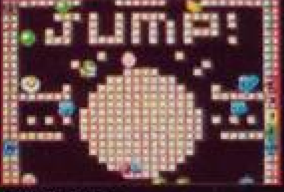


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FLYING SHARK HOT FROM THE ARCADES. Flying Shark is the definitive conversion of this shoot-em-up, chart-topping classic hit from Taito. Develop your strategy as you face swarms of enemy planes, tanks, gun emplacements and a host of sea-borne craft as you bomb, blast and battle your way into arcade history.

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ARKANOID REVENGE OF DOH. Eons have passed... yet despite apparent annihilation in the original ARKANOID game, Dimension-controlling force "DOH" has come back to life, and occupying the huge space-craft ZARG, has entered our Universe. ARKANOID type space-fighter MIXTEC runs through long forgotten computer data until it finds the answer to his threat... "VAUS 2" is launched and speeds towards the threatening alien presence, before it can extract its revenge... "The Revenge of Doh"



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BUBBLE BOBBLE TAITO'S NO 1 ARCADE HIT IS HERE! Meet Bub and Bob, two of the busiest beasties you ever saw, as they battle their way across 100 levels of controlled chaos in search of their girlfriends (ahhh!). Jump around picking up goodies and secret weapons as you seek to outsmart your enemies, but beware...hang around too long, and you'll face Baron von Blubba, from whom there's no escape!



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LEGEND OF KAGE Legend has it that long ago in Japan the beautiful Princess Kiri was kidnapped by the evil Dragon King, and Kage, a young ninja who was walking with her in the forest at the time, was given the formidable task of rescuing her. You must help Kage in his quest through the forest to the Dragon King's palace, gain entrance, find Kiri and take her to safety, while avoiding the Dragon King's ninja guards.

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THE LOOK

Part three of our series on graphics

So far in this series we've concentrated on the visible parts of CPC graphics – things you can glean from the manuals, or *Type-Ins*. But it's about time we had some idea of the murkier innards, and got some hands-on experience...

Ports to call

For those who aren't sure how to talk to the various chips in the Amstrad, the theory is this. Most people know about computer memory, a series of boxes that are numbered from 0 up to 65535. Most people don't know that a similar system exists for communication. There are a series of 'ports' that are also numbered from 0 to 65535, but they don't have anything to do with memory.

The best way of visualising this is to think of each 'port' as a sort of dumbwaiter. The Z80 processor chip sends bytes (values which can range from 0 to 255) to the chips through these dumbwaiters, and the chips can talk back to the processor using the same channels. Not too complex, is it?

Before we go on to the commands to carry out these operations, you should be aware that indescriminate use of the input/output ports could damage your CPC badly. We won't be held accountable if you wreck your Amstrad through irresponsibility.

Having put a dampener on happy-go-lucky pokesters, I've only known three people who caused actual harm. A little experimentation (we'll tell you when!) can be very helpful in finding things out.

The command to input information from an external source (outside the processor) is: `INP n,a` where `n` is the number of the port and `a` is a variable in which to place the value. This command is generally the source of grief.

Outputting information isn't nearly so dangerous: use `OUT n,a`. The meanings of `n` and `a` are the same, although `a` can be a number or a variable (you have been following *Absolute Beginners*, haven't you?).

Fishing for chips

Overseeing the transposition of screen memory (49152 to 65535, remember) into a picture on the monitor are two chips. The first of these is probably the most useful. Its name is HD6845: CRTC (for cathode ray tube controller) to its few friends.

This chip has various internal memory locations, or registers. From the various numbers stored in these, the chip creates various signals and time pulses to switch correctly the electron beam(s) in your monitor. It's a standard component in many computers and related products – like the *Vidi* video digitizer from Rombo.

The video gate array is a more exclusive chip, designed by Amstrad just for the CPC's. Three versions of this were made: the 40007 was included in most 464s, and it had to have a metal plate clipped on top to dissipitate heat. The 40008 for the 664 was similar, but just warmed up. The 40010, 6128 for the use of, barely changes temperature.

Whichever version you have, the purpose of the gate array is to store the screen mode, keep track of the inks and pens, look at the CRTC occasionally to decide on timing – and create a nearly finished signal for the monitor to work on. A final note: information on the gate array is very scarce, mainly due to the fact that Amstrad have not, as yet, produced any data on it themselves.

CRTC for yourself

Let's look at the CRTC first. It has 16 registers, numbered from 0 to 15. These are all



● A self portrait (?) from Craig Paterson of Saline

● S-S-Sylvester here won R. Patel of Birstall £20!

● R Patel again, this time inspired by the game *Flying Shark*

Faster than a speeding bullet, nearly

***'What's that Pat doing?'* The first issue we covered screen memory; last month we touched on Basic commands; now we're looking at the hardware, bypassing Basic entirely! If you think this course is going fast, you're absolutely right.**

Of course, we could just go along, placidly describing the scenery and taking it easy. Not here! We'll be circling round and round, exploring features briefly, then returning for a more in-depth look, repeating this until all the secrets are laid bare. That way there's always something new each month. Not forgetting the programs that will crop up from time to time: no boss, I haven't forgotten the sprites. *The Look* – an education at the speed of light.

closely interrelated, so changing one without changing some others as well generally isn't a good idea... We'll take a closer look in following months, but for the moment, stick to these. Bear in mind that the operating system won't know what's going on – these examples occur beneath its ken.

Talking to the CRTC is a bit involved. First of all you have to tell the chip which register you want to access. You do this by putting the value on to I/O port &BC00 (48128 to those who have trouble with hex). Then the new register contents are put out on &BD00, or 48384.

Register 1 decides how many characters are going to be output across the page. You might think that this changes according to screen mode, but in fact it stays at a constant 40. Characters to the chip are always mode 1 size. Changing this value to 0 takes the whole display away – anything with a width of 0 is 'edge on'. Anyway, to change this value use:

● *Dun Darach – ported from a decidedly inferior computer...*

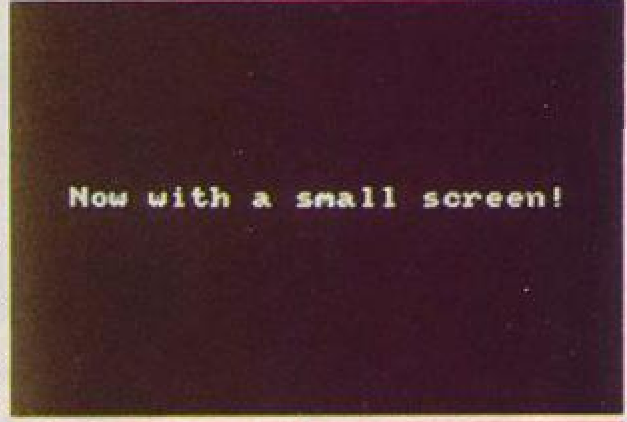
`OUT &BC00,1:OUT &BD00,n` (Don't try values much above 40!)

Register 6 in a similar way looks after the number of character rows. This is generally loaded with 25, but other values can be put in too, just like register 1.

Once you have tried these, you'll find the drawbacks. Although the screen has changed shape, Basic doesn't know about it! Most of the screen is hidden, and moving the cursor using the vertical horizontal cursor keys has completely changed. Also, the top left corner of the screen is always in the same place!

Register 2 can deal with this last problem. Say you had loaded register 1 with 20, then to centre the screen you would have to output 36 into register 2. See the connection? It may make more sense if I said that this register generally has 46 loaded into it...

That's all folks. Next month we take a look at the gate array, and then get down to where things really happen – the software...



● ... because it's very easy to do



● What is IT? Jason Davis of Macclesfield knows, but he's not telling...



● House of the month, courtesy of J. Walker – artist, radio DJ and New Zealand middle distance runner *(shome mishtake shurely – ed.)*



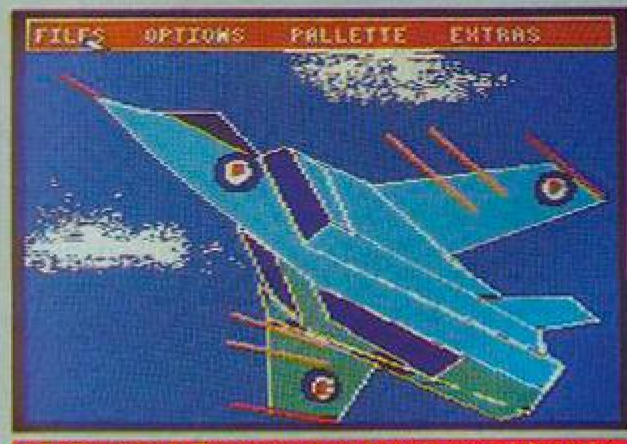
● Mrs T. (sorry but you didn't give us your first name!) Hewitt created this seascape with *Smart 2*. Any more entries from Norwich?



● Dusenberg - a collector's item by R. Patel



● Nice helicopter from Dean May, Wooton Under Edge resident and budding artist



● B. Sanders (a Brummie) must have been quick on the draw to manage *this* sketch



● Stoke on Trent's own John Thorley drew his back garden for *The Look*


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Brian Doyle, 18 Doyle Rd, Turners Cross, Cork, Eire

Pokes on 'Loadsagames'. Penpal also required, male or female. Red hair, brown eyes & slim build (that's Iain, not the requirements of a penpal!)
Iain McKinnon, 37 Loch Laidon St, Sandyhills Estate, Glasgow G32 9HR

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Patrick Niesen, Rue Ligot, 79 B, 6200 Gosselies, Belgium

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No name given (good grief), 109 Crawfordsburn Road, Bangor, Co. Down, N. Ireland, BT19 1BJ

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Colin Taylor, 1 Bodiam Close, Enfield, Middx, EN1 3HZ ☎ 01 367 2109

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Nicholas Roach, 5 Hintlesham Close, Stowmarket, Suffolk ☎ 0449 674848

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Alex Kelly, 113 Potter Street, Northwood Middex, HA6 1QF

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Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: *Helpline, Amstrad Action*, 4 Queen Street, Bath, BA1 1EJ. Write on a postcard/back of a stuck down envelope (we open none!) and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner – not us. By post include a self-addressed, stamped envelope for the reply – or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. If you want to come off *Helpline*, or you have a complaint, tell us.

ABSOLUTE BEGINNERS

More Basic the easy way

Last month, you'll remember, we explored the delights of the print command, and typed in a couple of programs that demonstrated it in action. Now it's time to use our newly acquired knowledge of printing for something just a little more complicated.

Type this program in and run it:

```
10 FOR c=1 TO 10
20 PRINT "There will be ";10-c;" more messages like this"
30 NEXT c
```

Mathematically, this is always going to be right. The expression '10-c' in line 20 always works out as the number of messages still to be printed. Grammatically though, it's got one slight problem; the last message, but one will read, "There will be 1 more messages like this' and that's bad English.

Edit line 20 and add a new line 25, so that the two run as follows:

```
20 IF d<=5 THEN PRINT d;"is less than or equal to 5" ELSE PRINT d;"isn't"
```

Now the CPC gets it right, and you get your first look at three extremely powerful commands – IF, THEN and ELSE. These give you much more control over the CPC than you've had so far.

If you want the CPC to do something in a particular set of circumstances only, you can tell it so. The command 'IF a=40 THEN PRINT b' tells it to print the value of the variable 'b', but only if 'a' has a value of 40.

Suppose we had a line reading 'IF a=40 THEN PRINT b'. On its own the command 'PRINT b' would display the value of the variable 'b' on the screen, but that 'IF a=40 THEN...' qualifies things. It tells the CPC to obey the 'PRINT b' only if 'a' has a value of 40.

We call 'a=40' the condition of the IF-THEN command. Don't mistake it for an assignment command: they may look similar, but conditions and assignments are completely different. The conditions and assignments are completely different. The condition 'a=40' doesn't change the value of 'a' – it just tests it.

When the CPC comes across an IF command, it evaluates the condition. That is, it checks to see whether or not it's true. If the condition is true – if 'a' is equal to 40, or '10-c' is equal to 1 in the earlier example – the CPC finds the command after THEN and executes it.

So much for IF and THEN, but what about ELSE? Well, just as THEN tells the CPC what to do if the condition is true, ELSE tells it what to do if it's false. If it's false, however, the CPC ignores THEN and the PRINT command which follows it. Instead it prints the second message, because that's what ELSE tells it to do.

Let's look at another example of IF-THEN-ELSE programming. This time there's a very important job for an IF-THEN command to do. First of all, here's the listing without an IF-THEN.

```
10 a=24
20 FOR b=4 TO 0 STEP-1
30 PRINT a;" divided by ";b;" equals ";a/b
40 NEXT b
```

That 'STEP-1' means that the value of the loop variable 'b' counts downwards, in this case from four to zero. When the value of 'b' gets to zero, problems occur in line 30.

The last item on line 30's printlist is 'a/b'. If you try to divide the value of 'a' by zero and print the result you get an error. It can't be done properly, because dividing a number by zero is a mathematical impossibility. By substituting in a new line 30 with a suitable IF-THEN command in it we can avoid this problem. What we want is a line which tests for the loop variable 'b' being equal to zero, puts up a special message if it is zero, or just carries on with the division if it isn't.

You should now have a fair idea what the new line 30 is going to look like. It will be something like 'IF (b is zero) THEN (print a special message) ELSE (do what the old line 30 did). See if you can work out a finished line 30 for yourself.

MORE CONDITIONS

We've seen how the CPC can cope with IF-conditions like 'a=40' or '10-c=1', but it's a lot more flexible than that. Try typing this program and running it.

```
10 FOR d=1 TO 10
20 IF d<5 THEN PRINT d;" is less than 5" ELSE PRINT d;"isn't"
30 NEXT d
```

The sign '<' is the less-than sign. So 'IF d<5' reads 'if d is less than 5'. When 'd' is less than 5 the CPC obeys the first PRINT command and the rest of the time the second one if obeyed.

There's a corresponding '>' sign which means greater - than, and together these two signs are called inequalities.

Notice what happens in the above program when d is equal to 5; the CPC obeys the second of the two PRINT commands, because 'less than' is a strict condition. If you mean 'less than or equal to you must use the less-than and equals signs together like this:

```
20 PRINT "There will be ";10-c;
30 IF 10-c=1 THEN PRINT "more message like this" ELSE PRINT "more messages like this"
```

You can do the same with the greater-than and equals signs, and in both cases it doesn't matter which way round the signs go: '>='and '=>' mean the same thing.

The most useful combination of signs is not-equal, which you make with greater-than and less-than signs thus: '<>'. Often you'll find you can get the same results two different ways with an |IF-THEN-ELSE command. As far as the CPC is concerned, 'IF a=1 THEN b=1 ELSE b=2' is the same as 'IF a<>1 THEN b=2 ELSE b=1'.

Last month we saw how we can make our instructions to the CPC conditional – how we can tell it to do one task or another depending on the circumstances. To do this we need the commands IF, THEN and ELSE, which are used like this:

```
30 IF b=0 THEN PRINT "You can't divide by zero" ELSE PRINT a;"divided by ";b;" equals ";a/b
```

When it comes to a line like this it works out whether the condition – b=0 in this example – is true or false. If the variable 'b' has the value zero then it obeys the PRINT command between THEN and ELSE instead. Conditions like the b=0 are the heart of IF-THEN-ELSE lines, but that's not all they're good for. The commands WHILE and WEND also use conditions. ●

=	equals	
<	less than	('a<b'means 'a less than b')
>	greater than	('a>b' means 'a greater than b')
<= or =<	less than or equal to	('a <=b' means 'a is less than or equal to b')
>= or =>	greater than or equal to	
<>	not equal	('a<=b' means 'a isn't equal to b')

If you thought a WHILE-WEND LOOP was a kind of handiwork in which thread is looped into a pattern of connected stitches by means of a hooked needle, you'd better sign on for next month's instalment of *Absolute Beginners!*

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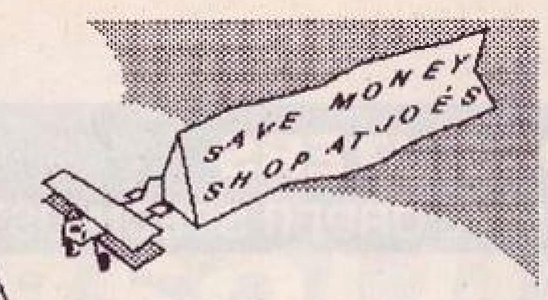
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BAR CPM

Part four of First Steps with Richard Monteiro

Last month, we explored DIRSYS and ERA: now we move onto a demonstration of the havoc you can create with your disk files!

To follow this month's episode you need: one blank disk and either a CPM 2.2 or CPM Plus system disk, an old egg box and some sticky-back plastic (only kidding – just the disks!).

Boot up CPM (type |CPM followed by Return at the Ready prompt, making sure the system disk is in the drive) and do the following if you're into CPM 2.2: type DISCCOPY, press return and insert the blank disk when requested. Follow the prompts carefully and you won't go wrong. **(Write-protect the system disk to be on the safe side.)** If you've got two drives type COPYDISC at the A> prompt and insert the blank disk into drive B. Type DISCKIT3 at the prompt if you're using CPM Plus. A menu will appear: hit f7 on the function keypad for the copy option. Press Y when asked and follow the prompts. If you have two drives, put the blank disk in the second drive.

If you've got it right, after several disk swaps you'll have a copy of your CPM system disk – 2.2 or Plus, depending which version you use. Put the original system disk away for safe keeping.

And the winners are...

Here are the winners of Graduate's *CPM on ROM Competition*, as featured in *AA37*. First out of the bag was W. Lane's card. Thundering, er..., crawling your way by Snail Mail, Mr Lane of Ayrshire, is a copy of the much-coveted CPM on ROM. Vouchers to the tune of £5 are on their way to Jinnah Mahamoodally of Merseyside, H Van Unreadablesurname of Belgium, Fraser Hamilton of Annan in Scotland, S Tang of London, Jon Dee of Cardiff, Mark Suettenham of Liverpool, Jo Van den Berghe of Belgium, H Helm of Coleford, Chariton Kikides of Greece and C Baker of Hants. Wow! What a cosmopolitan lot we CPCers are. The vouchers allow you to claim £5 off any Graduate product. What are you waiting for? *(the voucher – Ed.)*

■ Catalogue the disk by typing DIR at the A> prompt. Then pick a file, any file;



■ Type, for instance, REN NEWNAME.COM=AMSDOS.COM at the A> prompt;

■ Enter DIR again and bingo! You *should* find the file has had a name change

Multiple erase

Now that you've got a perfect copy of your master disk you're going to make it into a not-so-perfect copy by using the ERA and REN commands mentioned briefly last month. You already know that individual files can be removed from disk by using the sequence ERA filename, where filename is any of the files on disk. For instance, enter DIR <return>, ERA ED.COM <return> and DIR <return> again. The first command displays all the files on disk, the second (the one we're most interested in) deletes the file called ED.COM from the disk and the third catalogues the disk proving that ED really has gone.

Erasing files is permanent; they've gone for good (or bad).

Multiple deleting is possible by making use of wildcards (or wild characters – like the Ed when I hand in my copy late, again). Wildcards, of which there are two, can represent any character or string of characters. The question mark [?] is used to denote any single character. ERA ?.COM erases all files on the disk with single-character file names and COM extensions. The asterisk [*] signifies any amount of characters. Hence ERA *.COM erases every file on the disk with COM as the extension. Experiment with these drastic commands later as you'll be making use of some of the other files on the disk further on in the article.

Now you're going to meet another of CPM's useful in-built commands: REN. With this instruction – syntax of the form: REN new filename=old filename – you can alter file names. REN NEWNAME.COM=AMSDOS.COM, for example, changes AMSDOS.COM to NEWNAME.COM. Try this if you're using 2.2, otherwise enter NEWNAME.COM=DATE.COM.

Transient versions of ERASE and RENAME – which perform identical functions to the built-in CPM commands – exist on the CPM Plus system disk. The advantage of the transient types is user-friendliness: you don't have to enter file names after the commands as you are prompted when input is required, useful as the REN syntax in particular is easily forgotten.

What's your type?

The TYPE command displays the contents on an Ascii file on the computer screen. The format of the command is TYPE filename. Optional [PAGE] and [NO PAGE] parameters can be tagged on to the end of the CPM Plus version. The PAGE option displays the console listing in paged mode, which simply means the listing stops automatically after displaying 24 lines of text. Pressing any key causes the display to scroll through another 24 lines of text.

You can halt the display by pressing Control-S. Control-Q resumes the listing. If you want to exit back to the system, Control-C does the trick.

If you do not enter a file specification in the TYPE command, the systen prompts you for one. CPM Plus only.

A useful trick for sending the contents of text files to the printer, as well as the screen, is to hit Control-P before entering the TYPE command. Issue another Control-P to stop sending characters to the printer.

You can view Basic listings, word-processor documents, database files by using TYPE – in fact any file that only uses characters 32 to 127.

There's nothing stopping you TYPEing other files, but be warned odd things will happen to your screen display which may only be rectifiable by resetting the computer. ●

Next month we complete our look at CPM's in-built commands, and move on to the files sitting on the system disk

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DAY IN THE LIFE

The things CPC users do!

After a few months for rest and recuperation, *Day in the Life* makes its return with this decidedly odd contribution from Adam Peters, who lives in Weybridge and needs his head examining at the earliest opportunity...



● Adam Peters, who should see a psychiatrist immediately

Running a successful publishing enterprise isn't easy. Running an unsuccessful one is no piece of cake either. Especially when it takes your printers over a month to print, your suppliers over three months to supply, Mirrorsoft Sugar knows how long to bring out *Fleet Street Editor* – and when it does come out you wonder why you waited – and your brain over a week to produce one sentence of readable English.

Spotkick Publications deal in football fanzines. That is to say, 'football' as in the greatest sport known to man (the race not the sex), and 'fanzine' as in poor quality. Readable English is not a priority.

But typing is, being both messy and time-consuming. I decided to steal some money and buy a computer. The Gospel according to *Which* advised the 6128. Advice which I heeded, purchasing in one big splurge: computer, colour monitor, printer (DMP 2160), and DeskTop Publishing software *(AMX Stop Press)*. The invoice said that *Stop Press* was 'to follow'. It didn't specify a year.

The start of the season beckoned, and I could delay no longer. Issue One of *Spotkick* (a general footie mag) was produced using my Dumpling printer and a BBC Master borrowed from my brother's school. I continued to hassle the warehouse in Barrow, my phoned and written abuses being fended off with a variety of excuses, which included; 'the manufacturers sent the wrong format', 'it must be lost in the post', and the marvellous 'everyone's on holiday'. When they ran out of excuses they sent a replacement... dust cover set (!). I've sent it back, and eagerly await their next move.

The printer's incredible range of excuses was almost matched by Mirrorsoft's at the PC Show, where they used every excuse in the book for not having any copies of the CPC version of *Fleet Street* for sale or on display (despite a plethera of leaflets). These excuses did not include 'it's not out yet' or 'it's still full of bugs'. Feeble, perhaps, but also true.

● *Lennie Lawrence, a funny old name for a mag and no mistake*

Still, *A Day in the Life* isn't here as a vehicle for personal griping. No, dear readers. It's here to assure disciples of *AA* (a truly fine publication) that, despite what software houses and ST worshippers (same thing, surely) might think, the CPC is a damn fine computer. Which it is.

The BBC recently went back to school, so I purchased *Mini Office II* to 'process' Issue One of *Lennie Lawrence* (a Charlton Athletic magazine). The label writer and database will come in very useful when the subscription floods in, and the processor knocks hard spaces off both *Wordwise* and *View* (on the Beeb). Colour (and the greater availability of games) is the main reason many WP users go for Arnold rather than the PCW, and with *Mini Office* one can select any of the 27 colours for pen, paper and border. Black on orange looks stunning. The Beeb doesn't have orange (ha ha).

When it comes to games, I like to play a couple of matches on *Gary Lineker's Soccer* a day (usually before bed). So what if it's mind-numbingly easy (my record to date: goals for 316, goals against 8)? It's still fun. I'd like to get *Matchday II*, but I'd never pay more than five pounds for a disc game or three for a tape. I'll wait for it to come out on budget or on a compilation (probably about 1993).

An average day in the life of my sturdy CPC would include a bit of processing, a bit of soccering, and a bit of programming; adapting *AA* type-ins and working on my classic *Lemonade Stand Simulator* (send those disks/cassettes and SAEs, folks).

No other computer is better equipped for combined business and leisure use, and no other computer has a better magazine (sounds like grovelling, but have you seen the others?). I am just getting to grips with the Pritt-Stick and elbow grease-saving arrival of my copy of *Stop Press* (try getting it on the Spectrum or Commodore, or for less than a hundred quid each on the ST). Looks like I had a lucky escape with *Fleet St Editor!* ●

Adam Peters is a certified football supporter. *Lennie Lawrence* is available from 433 Woodham Lane, Woodham, Weybridge, Surrey KT15 3QE: £2 for 3 issues. You get a free metal lapel badge, but don't hold it against them.

Are you one of those people?

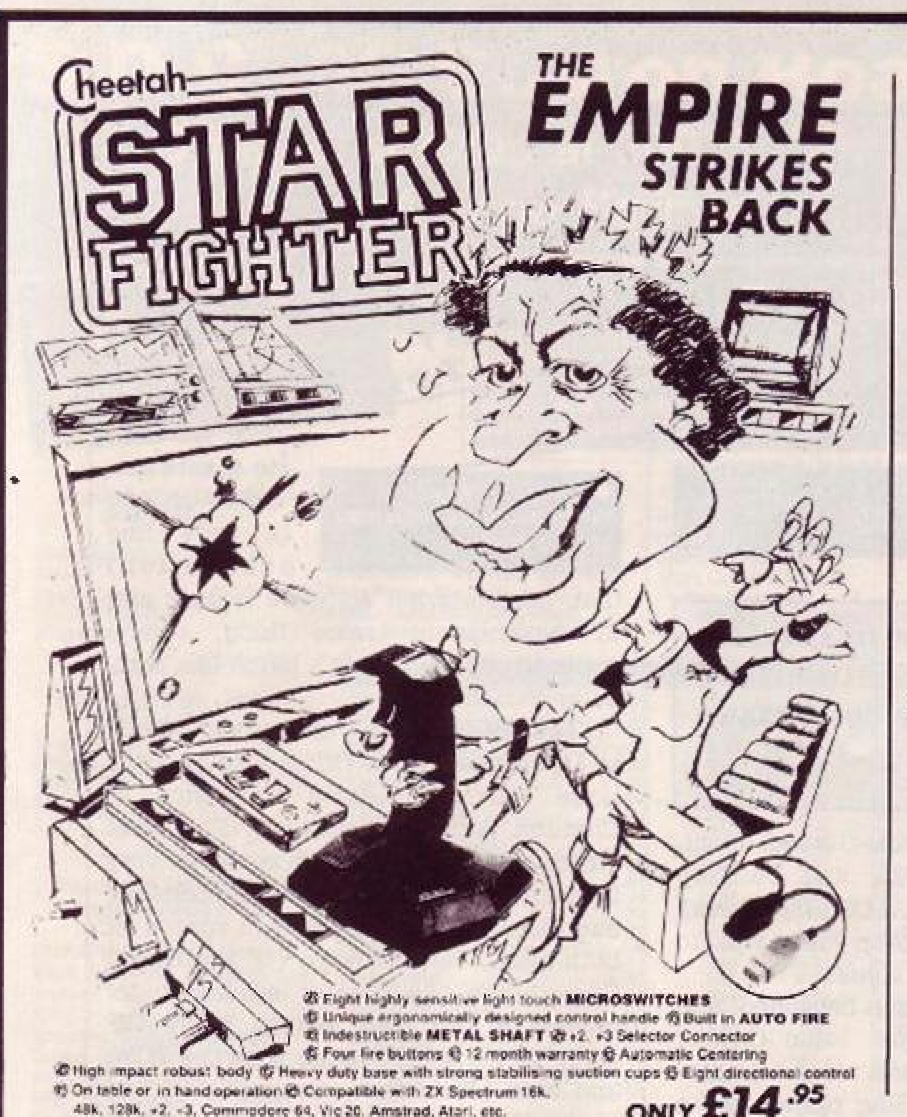
We're well aware that people use their CPC to do all sorts of things – witness last month's 'What use is a CPC anyway?' article. If you're one of those many people who have discovered what the CPC can really do, why not tell us about it? We've called it *A Day in the Life*, but that doesn't mean you have to describe a 'typical' day: just tell us, in your own words, what you know and what you think the rest of us would be interested to read.

We don't expect you to do this for nothing, of course, and we pay for every contribution to this section according to quality and the amount of work required to turn it into something we can print. Send your contributions to: *Day in the Life, AA*, 4 Queen St, Bath BA1 1EJ.

Points to remember:

● Ideally we'd like your work both in print-out and as an ASCII file on disk, but that's not absolutely essential; and

● Enclose illustrative material and you dramatically improve your chances of getting into print.



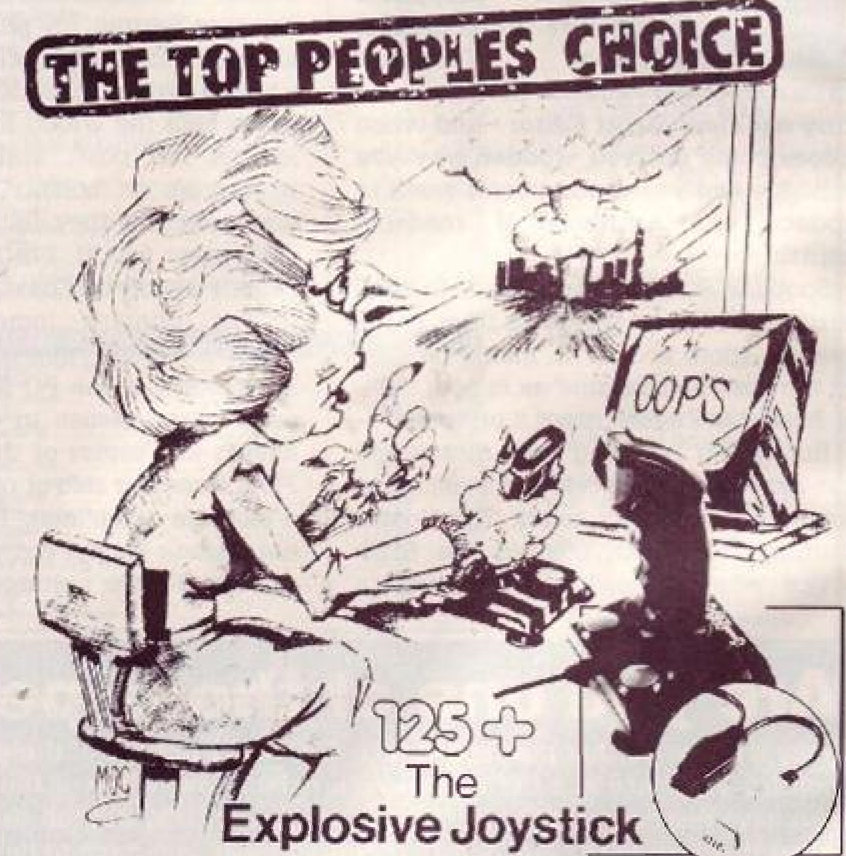
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ACTION TEST

Stand clear – it's a pile of games!

After a quiet issue on the games front last month – no *Mastergame!* – we make up for it with two truly exceptional games, *Cybernoid II* and *Savage*. In the end *Cybernoid* just clinched the verdict, though there were some heated exchanges in the office. The Ed lost, as usual!

Two other terrific games – Imageworks' *Fernandez* and the Domark/Elite joint venture *Live and Let Die* – plus a whole host of others well worth the asking price, round off a hectic month's reviewing.

And expect even more next month, which sees the traditional Christmas rush of crackers and turkeys. Anyone for an early mince pie?

1943
THE BATTLE OF MIDWAY

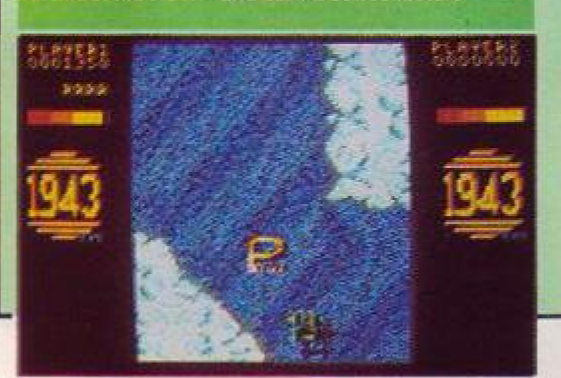
Capcom ● £9.99 cass, £14,99 disk
joystick/keys

Question: when was the Battle of Midway? – June 3-5, 1942. Very good, go to the top of the class and jump off. As historians (and fans of PSS' Rave *Battle for Midway)* will recall, it marked the turning point of the battle for the Pacific. So why should Capcom bring out a game about the Battle of Midway and call it *1943?* Because it's a sequel to the 'highly acclaimed' (by whom?) *1942*. Simple, what could be easier? Anyway, you're the pilot of a P38-Lightning fighter-bomber on a mission from God... – errm, on a mission to seek and destroy the entire Japanese airforce and navy single handed. This is no ordinary P38 though: extra weapons can be picked up to help in the destruction. A second player can also join in to provide simultaneous two player action.

Down either side of the vertically scrolling playing area is a status panel for each player. Your score, number of rolls remaining and an energy bar are all shown in the panel. Run out of energy and it's time to join the great squadron in the sky *(cue violins, re-load game).*

There are two main stages, air to air combat and ground attack. In air to air combat you have to shoot down the hordes of Japanese planes as they come towards (or fly away from) you. The fighters come in a variety of formations and surprisingly enough they can shoot you no matter which way their plane is facing. One shot sends them down in a ball of flame. Enemy bombers appear occasionally and shoot at you with their tail gunners. Several hits are required to blow them out of the sky.

● Shoot the POW – and earn a bonus feature



SECOND OPINION

"Compare 1943 *with* Flying Shark, *and* 1943 *comes out miles ahead. Unfortunately some of the main features of the game are still as bad: the scrolling, although faster, is flickery; and there are too few stages to the game. It's fun and it'll keep you happy for a while, but to my mind there hasn't been any improvement on this genre since* Lightforce.*"* **PbM**

GREEN SCREEN VIEW: Tricky, but still playable

There are two ground attack targets: shipping and a huge plane. To destroy the shipping you have to blast all of the gun turrets. Of course the guns fire back at you – it'd be boring if they didn't. If you fail to destroy all the ships then you'll have to attempt the attack again. The big plane has four engines, each of which is armed with a gun (yes, it does sound stupid). The screen stops scrolling when you're attacking the plane and only continues when all of the engines have been destroyed. A destroyed engine can't shoot back.

Colour is used adequately and the scrolling is smooth, if a little flickery. Animation is functional, but that's about all. A good tuneplays continuously and sound effects are explosive.

It may not be the most mindblowingly original game of all time, but that doesn't stop it being fun to play. The two player option makes it more competitive: you can fight over who gets the bonus objects, for a start.

Just wish someone could explain the logic behind that title... **GBH**



● Going for the big one

FIRST DAY TARGET:
50,000 points

The Verdict

GRAPHICS 74%
- ☐ Smoothish vertical scrolling.
- ■ More animation would have helped.

SONICS 68%
- ☐ Good continuous tune.

GRAB FACTOR 77%
- ☐ Simultaneous two player action.
- ☐ Very easy to get into.

STAYING POWER 64%
- ■ Unfortunately it doesn't increase in difficulty much...
- ■ ... and there are only four different stages before it starts to repeat.

AA RATING 72%

- ☐ A fun gratuitous shoot-em-up to while away a few hours.



CYBERNOID II

Hewson ● £9.99 cass, £14.99 disk joystick/keys

Raffaele Cecco, author of *Exolon* and the original *Cybernoid*, proudly presents yet another blast and think game to keep you frustrated at your keyboard for hours on end. In *Cybernoid* (reviewed *AA*32: 91%) a bunch of real nasty pirates were stealing gear and generally being dead unpleasant all over the place. As you will no doubt recall, however (ahem), you eventually managed to thwart their wicked plans. But now – surprise, surprise! – they're back with a bang and up to the same old stuff again. Your ship has been redesigned and equipped with even *more* weapons to blast the baddies. Go geddem!

If you're familiar with *Cybernoid* you'll instantly feel at home with the sequel. Screen layout is identical: a status panel across the top and a flick screen playing area covering the rest. In the status panel there are four boxes, each one containing different information: lives, score, weapons and time. At the start of play you have four lives and bonuses are awarded as you progress. The score box is split into two: a normal score and cargo. Cargo points are only added to your score at the end of a stage.

Your objective is to collect as much cargo as possible, blast the pirates and get to the end of the stage. Do all those and you get lots of bonus points, and get to try your hand at the next series of interconnecting screens. *Cybernoid* had some very nasty timing problems and you'll be happy (or miserable) to know that there are plenty in the sequel.

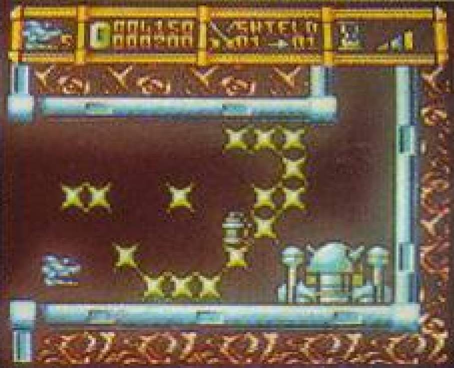
In some locations, and also when some of the pirates are blasted, extra weapons are dropped that can be strapped onto your ship. You can have rear firing guns, an orbiting ship to fire with you and a dirty great ball to bash things with. Your ship's armed with a laser and there are also seven other weapons that you can use by pressing the appropriate numeric key. They are: bombs, time bombs, shields, bouncing bombs, seekers, smart bomb and tracers.

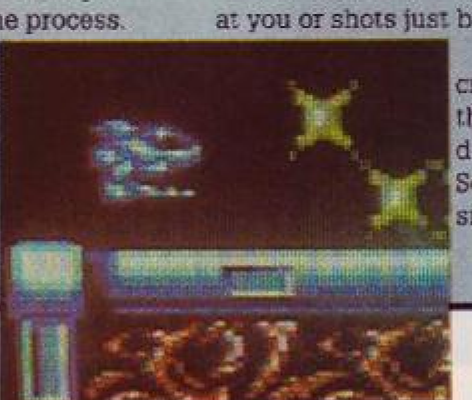
Bombs travel forwards and either move down or up in arc, depending which way your ship's moving. Time bombs can be deposited behind you to catch anything that follows closely and bouncing bombs fly all over the screen anhiliating anything they hit. You can activate some shields for temporary invulnerability to everything on some of those really nasty screens. Seekers are intelligent missiles that never miss their target, but they only go for static targets and ignore the pirates. A smart bomb destroys everything on screen and tracers run around the edge of the screen bumping into pirates and killing them in the process.

Unfortunately you have only a limited supply of each type of weapon, but bonus ones can be picked up by collecting some of the pirate cargoes. All weapons are replenished when a life is lost, but strap-on weapons are destroyed.

The pirate defences come in many shapes and sizes: bouncing aliens, caterpillars, space ships, gun batteries, missiles... Bouncing aliens and their horizontal counterparts come in pairs. They can't be destroyed and so unless you're willing to use up a valuable shield you'll have to work out the timing to get past them. Caterpillars travel around the screen and are likewise indestructible. The pirates in their space ships fire at you or collide, though a burst of laser fire eradicates them. Missiles stick to the floor or ceiling and launch when you pass over them. Gun batteries are shielded and so you must hit when they're firing at you or shots just bounce off.

to Raffaele Cecco's credit they're up to the usual high standard of all his games. Some sprites occasionally erase each





SECOND OPINION

"Brilliant! Why? Simply because of the frenetic and totally outrageous gameplay: your fingers go from the keyboard to the joystick and back without going through intervening points. At least, they have to if you're going to beat it. Drop everything else and get this!" **PbM**

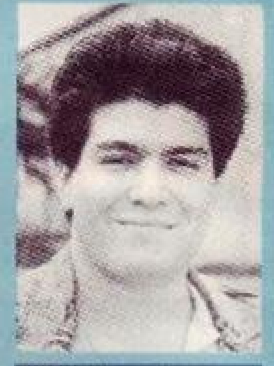
GREEN SCREEN: No complaints

Raffaele Cecco, this is your life!

Cecco first made his mark on the CPC with Equinox *way back in issue AA10. It was Raved, with a very respectable rating of 83% and a high graphics score of 87%.*

Cecco's second game, Exolon, *went one step further and was Mastergame in AA24. The graphics in* Exolon *were a substantial improvement on* Equinox *and gameplay was even better. Put simply,* Exolon *consisted of loads of screens with a wide variety of hazards to avoid or destroy. Extra gadgets could be found and collected to give you a better chance of reaching the end of the level.*

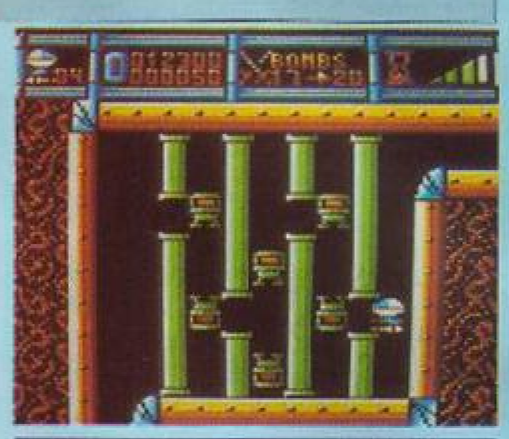
The next step was Cybernoid, *also a Mastergame (AA32). It played similarly to* Exolon *but had many more extras to strap on your ship. Precise timing was required to negotiate some of the hazards and rather than always moving to the the right as you did in* Exolon *the other two dimensions of up and down were used too.*



● R. Cecco Esq, programmer extraordinaire



● *Exolon*, Cecco's first *AA* Mastergame. Terrific graphics, even better gameplay...



● ... and *Cybernoid*, another Cecco Mastergame. The man's a genius!





● More red-hot *Cybernoid II* action

other, but other than that they're flicker free, colourful and very detailed. Sound effects are excellent too, as is the continuous tune. The gameplay is just as addictive and frustrating as in *Cybernoid*.

Cybernoid II is a fine, fierce fun game. If there is a criticism it's that it lacks startling originality. We covered the subject of sequels in *AA* a couple of months back, and this is an excellent example of a sequel that is not sufficiently different. Cecco's work goes from strength to strength, but what would really provide the icing on the cake would be something of stupendous unexpectedness. How about it, Raffaele? **GBH**

FIRST DAY TARGET:
Complete stage one

● Going, going, gone!



These are a few of my favourite things

Bombs
Twenty are initially loaded onto your ship. Use: to destroy missiles and heavy gun emplacements.

Time Bombs
When dropped out of the back of your ship they wait for a few seconds and then blow up, destroying anything nearby. You have ten time bombs.

Defence Shield
Gives total invulnerability to everything – for a short while. Useful for negotiating narrow gaps occupied by indestructible aliens or caterpillars. Note: only one defence shield is fitted to the ship.

Bouncing Bombs
Some screens have blocks that must be destroyed and can't easily be hit. Bouncing bombs throw out four blobs that go all over the place destroying whatever they hit. Four sets fitted.

Seekers
Homing missiles that go for missiles and gun batteries, but never miss. Note: you have only five and care must be taken when you use them.

Smart
Aliens and gun emplacements go *Kaboom* when this goes off: but only one is installed on your ship.

Tracker
Two stored on board: they travel around the edge of the screen destroying whatever they hit.

The Verdict

GRAPHICS 93%
- Up to the high quality stuff you expect from R.C.
- Bright, colourful and flicker free.

SONICS 87%
- Brilliant tune plays throughout.
- Sound effects are just as good.

GRAB FACTOR 93%
- Frustratingly addictive...
- But a touch too frustrating at first.

STAYING POWER 89%
- Plenty of screens to puzzle and blast your way through.
- Once you've done it you probably won't come back.

AA RATING 90%
- A very good game – perhaps a little too similar to *Cybernoid*?





SAVAGE

Firebird ● £9.99 cass, £14.99 disk joystick/keys

Take one axe wielding homicidal maniac, lock him up in a jail cell, let him escape and what happens? He goes charging around the dungeons chopping things up, grabbing everything not bolted down and legs it out the door, that's what. You are that axe wielder in *Savage*, probably the best-looking CPC game ever.

There are three different levels. Each is loaded separately and a password is required for you to stand any chance in the second and third games. There's also an introduction program which has a large scrolling message that fills you in on the scenario.

In the first game you run around the castle chopping monsters and collecting things to help your violent cause. You're a very large and colourful sprite running around horizontally scrolling castle corridors. Hordes of monsters stand in your way and they drain your energy as long as they're in contact with you. Some big monsters lurk and they take loads of hits before they explode in a technicolour bang. In some places there are holes in the floor which must be leapt over. Complete the level and you receive a password for level two.

Level two has a completely different viewpoint: you look out across Death Valley, which is viewed in 3D, and travel forwards at incredibly high speed in an attempt to escape the valley. Large and ugly monoliths litter the valley floor and

SECOND OPINION

"Savage *is the height of the 'frustration/addictiveness/graphics' equation that makes all great games great. And what's been achieved in its graphics is just breathtaking: it makes other games look lame in comparison. If the look of a game is important to you – and surely it is – you'll love* Savage.

There's lots of nostalgic overtones of games such as Trantor, Space Harrier *and* Alchemist *and you're left with a spicy taste that's a whole new flavour:* Savage *flavour!"*

PbM

GREEN SCREEN VIEW
Looks brilliant



● Where eagles dare



● An ugly great monolith

collision with any of them loses you a life. If you have the password from game one then you have three lives: otherwise you only have one. To continue onto level three you must go through three sub-levels, each trickier than the previous. To complete a sub-level you must kill a set number of monsters that wander amongst the monoliths. During your journey across the valley you discover that your true love has been kidnapped and imprisoned in the castle.

You arrive back at the castle, but at a different entrance to the one you left from. Since you can't fly you call upon your eagle friend who enters the castle in your place. Water, spiked pits, bouncing rocks and demonic guardians infest the castle and all must be dealt with if you're ever to complete your rescue mission. Like part two you only have one life unless you have the password for three lives.

In all three levels the graphics are absolutely excellent: without any doubt at all the best there's been on the CPC for many, many months. Animation of the sprites is good and there's little flicker considering their size. Sounds are good and the tunes are of a similar standard to the graphics, although there are no tunes during play.



● Danger! Low flying monsters



● Bash the monster!

If the gameplay was as good as the graphics then we'd have a *Mastergame* on our hands, but unfortunately it's not. The difficulty is set about right in all but the second level which is far too tough: it can be done but you'll end up very frustrated when you have just one more of the bad guys to eradicate and then you hit a monolith losing your only remaining life. The other two games are both frustrating and difficult, but not impossibly so. Practice will get you through in the end. A tremendous game, but lacking in long term appeal.

GBH

FIRST DAY TARGET:
Complete level one

The Verdict

GRAPHICS 95%
- Huge, well animated and colourful sprites.
- Best graphics in many moons.

SONICS 68%
- Some good tunes and sound effects.

GRAB FACTOR 87%
- Run around, kill monsters and look at the graphics in disbelief.
- Difficulty increases as your skill does.

STAYING POWER 77%
- Three very different levels to complete.
- Level two is too difficult: don't let it put you off completing the game!

AA RATING 86%
- It looks brilliant, it sounds brilliant and it is brilliant.



FERNANDEZ MUST DIE

Imageworks ● £9.99 cass, £14.99 disk ● joystick/keys



El Diablo (no prizes for translating that one) is a little South American state under the tyranny of the evil General Fernandez (boo!). Desperate situations justify desperate remedies, and, decidedly unchuffed with this situation, you take it upon yourself to liberate your country (hurray!) by killing the dirty despot. Fernandez, unlike some South American dictators whose names I could mention, is too sensible to ask the people whether they want him or not, so he Must Die.



● FREE those prisoners!

This, one of the first fruits of the much vaunted new Mirrorsoft label, is a one or two player assignment. A score panel runs across the top of the screen and below it is your energy meter and the number of grenades and lives left. The rest of the screen is made up of a scrolling playing area viewed from above. You're the man in the shiny blue helmet heavily outnumbered by the ones in green.

A map of the exceptionally and commendably large playing area can be called up at any time, a flashing dot indicating your position. There are basically two stages to the game: outside in El Diablo's war-torn countryside and inside buildings. The outside world is a dangerous place, filled with hordes of Fernandez's men, tanks, aircraft and mines. A blast of machine gun fire deals with the troops, but grenades are needed to blow up the tanks. Succeed in destroying a tank though and some grenades are deposited on the ground for you to collect. Planes fly down the screen dropping bombs, red cross parcels and super troops. Red cross parcels restore your dwindling health and super troops are more dangerous.

There are plenty of buildings in El Diablo and blowing them up is as productive as it's fun. Inside you're likely to find gold or ammo. Bridges also cross the rivers and apparently you can't swim because one drop of water is fatal (so much for realism).



● Watch out for the train!

SECOND OPINION

"Fernandez Must Die! *The whole emphasis of the game lies in slaughtering hordes of the opposition and then topping the big guy himself. Compared to this, Rambo is Mary Poppins. But that apart, this is exceedingly enjoyable, looks terrific and sounds fabulous.*" **PbM**

GREEN SCREEN VIEW:
Green, green, green!

Scattered around El Diablo are jeeps which you can get into and blast at the enemy with. While you're inside the jeep it takes damage rather than you, until it falls to pieces beneath you *(I've got a car rather like that – ed).*

When you're inside a building it's time to rescue the peasants who've been imprisoned by Fernandez. They can be freed by blowing their cells open. Enemy soldiers are also inside the buildings and they need to be dealt with in the usual manner. Grenades and gold can be found inside the buildings.

Your mission is to destroy the eight bases of Fernandez and get as much glory as possible. Points are awarded according to how many vehicles, buildings, troops and bases are destroyed. Freeing prisoners and collecting gold also adds to your score. A bonus life is obtained when you destroy a base.

If you like green games you'll love this, since just about every shade possible is used at one time or another. The vertical scrolling is smooth and fast enough. The sprites are flicker free and well animated. An excellent tune plays throughout the game and the sound effects are pretty smart too.

The playing area is large and completing the game is going to take a long time. The only criticism is that action is a bit on the sedate side for really manic players, who could perhaps become bored eventually.

This is the first Imageworks release on the CPC and it gets the label off to a cracking start: *Bamboozal* is coming soon, and let's hope it's as good! **GBH**

FIRST DAY TARGET:
Destroy two bases



● WATCH OUT for that low-flying aircraft!



● WHOO-EEY!! Here we go!

The Verdict

GRAPHICS 84%
- ☐ Smooth vertical scrolling.
- ■ *Very* green graphics.

SONICS 83%
- ☐ Excellent continuous tune.
- ☐ Terrific sound effects.

GRAB FACTOR 84%
- ☐ Very demolishable landscape.
- ■ Confusing for the first few games.

STAYING POWER 78%
- ☐ Vast playing area.
- ■ Not exactly frantic action.

AA RATING 83%
- ☐ A tremendous start to a new label.



LIVE AND LET DIE

Domark/Elite ● £9.99 cass, £14.99 disk joystick/keys



● Even Meesta Bond needs practice!

It sounds like a plot from a Bond film (OK so it doesn't – but I've got to start somehow!): a while ago those truly wacky and off the wall merchants Domark (did you see their zany stand at the PC Show, with Rambo and The Leaderene?) beat off all sorts of heavyweight competition and pulled off a fabulous coup by acquiring the license for the James Bond film *Live and Let Die*. Unfortunately, however, they had omitted just one tiny detail: what to do with it. Meanwhile, in another part of town, those not-nearly-so-wacky people Elite had a shoot-'em-up speedboat game all dressed up but with nowhere to go. Some marketing genius (a contradiction in terms, surely? – True, but don't call me Shirley) got the two software houses together and so was launched *Live and Let Die*, the computer game.

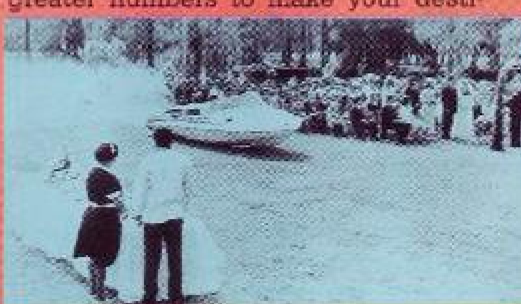
The link with the film, as you might expect from such a peculiar genesis, could politely be described as tenuous – indeed the only discernible connection is a boat chase. You view the landscape as it comes out of the screen towards you and your boat sits in the centre of the screen. Below the playing area is a dashboard with a speedometer, fuel gauge, score, stage number and number of missiles. You start with three missiles and a full tank of fuel. Extra missiles and fuel can be found floating in the river or are occasionally parachuted in by helicopter.

There are four different tasks: **practice mission, North Pole exercise, Sahara Desert exercise** and **New Orleans Mission.** The practice course is just a single stage with loads of targets to blast. The targets come in two colours, red and black. Red targets can be blasted with a single shot and black targets must be hit with a missile. Everytime you hit something the boat explodes and valuable fuel is wasted, and the game ends when you're out of fuel.

After a few games on the practice course you'll be ready to take on the added hazards of baddie boats, mines, rocks, gun emplacements, logs and aircraft. Both exercises and the mission have all of these dangers. Bumping into logs send you flying into the air, but collison with anything else is deadly. Rocks (and ice floes) can't be destroyed, but everything else can be blasted to bits.

Rivers tend not to flow in straight lines, so it comes as no surprise to find out that the ones in the game go all over the place. They narrow in places too and even disappear into tunnels. Some sections have steep banks along the sides and to avoid some of the water based hazards you must go up on the banks: of course you can't stay there forever, gravity has something to say about that.

Eventually it's time to take on the New Orleans mission and things get really tough. All the old adversaries from the the two exercises are there, but in greater numbers to make your destination, Mr Big's headquarters, a difficult place to get to.


● From the computer game of the film of the book... Look carefully and you'll see brave Meesta Bond has a stand-in (sit-in?) doing his stunts for him



● A complimentary something from your friendly helicopter pilot

Sound effects are a mixture of sirens and explosions with no noise for the boat's engines and there no tune during play. A simple tune plays on the title screen. The graphics are chunky and colourful with only a little animation. Your boat is well drawn and bounces and pitches nicely when travelling along. The scenery moves smoothly and quickly towards you.

At first sight *Live and Let Die* looks just like *Buggy Boy* on water. Second sight confirms this except that the gameplay is much better. It's not just a matter of getting around a course in a certain amount of time or lose, you have to make that time by collecting fuel and there's also the satifaction of being able to blast some of the things that get in your way. James Bond games have been consistently average to poor in the past, but this one is a significant improvement. You're going to die a horrible death, Meesta Bond; but before you do I will reveal my plans to take over the entire world – ha ha ha-ha! **GBH**



FIRST DAY TARGET:
Complete the Sahara Exercise

The Verdict

GRAPHICS **79%**
- ☐ Fast and smooth moving graphics.
- ☐ Chunky graphics, but colourful nonetheless.

SONICS **48%**
- ☐ Good effects.

GRAB FACTOR **82%**
- ☐ Practice level to get you started.
- ☐ Tricky at first, but not impossible.

STAYING POWER **84%**
- ☐ Four different objectives of increasing difficulty levels.
- ■ When you've completed all missions you'll only play it occasionally.

AA RATING **80%**
- ☐ The best Bond game yet.

SECOND OPINION

"I only played Buggy Boy once and this is a good improvement. The game features aren't particularly original, but the toughness of each mission, added to the fact that you get better the more time you spend on it, makes me want to play it every time it's loaded. Limited long term appeal, but bags of fun. Recommended." **PbM**

GREEN SCREEN VIEW: OK

COMING SOON!

Sneak previews of what to look out for in the months to come

DINAMIC MAKE THEIR MOVE

NAVY MOVES

Dinamic ● Release date undecided

Dinamic, a young and upcoming company from Spain – where the CPC sells in droves – had until recently only been releasing games on other companies' labels. Now they're doing it for themselves. Their first release under their new set up was *Game Over II* (reviewed last month), the sequel to *Game Over.*

Long ago they released *Army Moves* and now the setting has changed to an underwater world filled with danger in *Navy Moves.* Hordes of frogmen and aquatic wildlife do their best to kill you and you must try to do unto them before they do unto you. And that's just one level, for, like *Army Moves,* this is a varied game which in effect gives you three for the price of one. The release is not yet fixed, but until then here are some screen shots...


● *Navy Moves* – the first pictures

● I was in Madrid recently, *Steve Carey writes,* and took the opportunity to visit the Dinamic HQ. It's on the 27th floor of an office block, and the view from the window is quite breathtaking. It must provide a good incentive for the team of programmers, I'd guess, knowing what might happen to them if they don't come up to scratch!

Dinamic are already ruling the roost in their home territory, and it would not be wise to bet against them here either. They have a young, friendly, enthusiastic team – and they all speak better English than I do Spanish. Marketing manager Michel Angstadt told me that Dinamic has high hopes for *Army Moves.* I saw the game in the later stages of development – when they were just adding the blood and gore! – and I was very impressed. On the other hand it's the gameplay and addictive qualities that really make a game special – it's what made *Cybernoid II* Mastergame and *Savage* only a very high Rave, for example – and that kind of thing can only be judged after hours and hours of wrist-rattling-finger-aching-*AA*-testing. Look out for the definitive review in *AA* soon!

Angstadt also told me that *Army Moves* had been banned in Germany as being 'too violent'. Blimey, haven't they seen *Death Wish III* or *Renegade?!*


● The view from Dinamic's Madrid HQ. Behave or else!

SPITTING IMAGE

Way back in the mists of time Domark brought out a game called *Split Personalities.* They were originally going to call it *Splitting Images,* but Fluck and Law (no spoonerisms please) threatened to set Messrs Sue, Grabbit and Run on them if they didn't change the name. It seems appropriate then that Domark should bring out the official *Spitting Image* game. To this end one Margaret Hilda Thatcher (nee Roberts) made a personal appearance at the September *PC Show.*



● *Spitting Image* – and *Split Personalities,* a Domark blast from the past with its own history!

ESPIONAGE

With the recent Law Lords' judgment that people are allowed to say the words 'Spy' and 'catcher' without being imprisoned as traitors, and may in fact use the two words in conjunction with each othe (provided that they have signed the Official Secrets Act and thereby promised not to use the words 'Spy' or 'catcher'), *AA* – the magazine that fights for *your* rights – is at liberty to reveal exclusively that Espionage the boardgame is currently being converted to the small screen by Grandslam.

One to four players take part in a bid to find the microfilm with the plans to the ultimate weapon. Alternatively you can win by killing off all of your opponent's spies. It'll cost £8.95 on tape and £14.95 on disk. Provided the Law Lords agree, of course.

● Shh! Don't tell anyone, but *Espionage* is coming!



DALEY THOMPSON'S OLYMPIC CHALLENGE

Ocean ● £9.95 cass, £14.95 disk joystick/keys

Can you match Daley Thompson's performance at the Olympics? As you know Daley didn't do too well, so here's a chance to try to do better. This chance comes in the form of *Daley Thompson's Olympic Challenge*. Included with the game is a rather dodgy audio cassette and a tremendous Decathlon poster.

This is (of course!) a sports simulation and starts with the training events. The training events comprise weight lifting, sit ups and squats, each with a performance rating shown graphically by a 'Lucozade bottle' (nice bit of sideways advertising there: if US Gold have Pepsi, Ocean get Lucozade!). At the end of the training your coach gives you a percentage rating of how fit you are. This fitness rating affects how well Daley does in the Olympics later on.

After a couple of minutes we're at Seoul (faster even then Ben Johnson!), and we start the Olympics with an evil choice of four sports shoes. You have to choose the right trainer for that specific event or winning the event becomes extremely hard. If you do pick the wrong footwear and fail to qualify then you are shown the correct footware and are given two more attempts at the event.

This is a one player game and there are ten events ('Decathlon' – obvious really) and you have to qualify to go on to the next events.



● The 100 metres – Jurgen Hingsen's unfavourite event

SECOND OPINION

"Daley Thompson had a disastrous Olympics (but not half as bad as Ben Johnson's!), and yet somehow appeared to win more friends in defeat than in victory. Funny old world, really. Oh yes, the game: it's Daley Thompson's Decathlon *(AA1, 81%) revamped, with better graphics, training in the gym and a bottle of Lucozade."* **SC**

GREEN SCREEN VIEW:
Fine

The Verdict

GRAPHICS 72%
- Good animation.
- Fair use of colour.

SONICS 42%
- The sound effects are awful...
- ... and the music is little better.

GRAB FACTOR 59%
- At first glance DTOC isn't amazing
- The temptation to go back is there.

STAYING POWER 57%
- Only one player, ten events...
- and the first four are damn hard.

AA RATING 62%
- Worth a look, waggling fans.

DT's OC is not bad at all. It doesn't capture your attention at first but after a while you go back just to have one more go. Pity about the sound, even with 'a Ocean Exclusive Audio Cassette', but there's few complaints about the graphic quality. **GMB**

FIRST DAY TARGET:
Complete day one

FIRE AND FORGET

Titus ● £9.99 cass, £14.99 disk joystick/keys

War threatens to destroy the world (colleagues famine, death and pestilence are off playing bridge with a tourist) and only you can save it in *Thunder Master*. Thunder Master is a heavily armed and armoured car, with a very high fuel consumption. If you want to read a scenario that contains loads of words like giga, turbo, pico and references to the greek alphabet then you've come to the right place.

The screen display is made up of a roadway that comes towards you with your car in the centre and there's also your score, fuel, war and speed shown above it. Before play begins you can choose a difficulty level and then a war is selected. The difficulty levels are basically medium, hard and very hard. There are several wars at each difficulty level.

In each war you'll encounter many different opponents who have a one objective, to blow you apart. Your foes are helicopters, tanks and bunkers. There are other hazards like rocks, mines and barbed wire. To increase your fuel supply you drive over cones. Points are awarded for the collection or destruction of each, and are lost if you go *kaboom*.

Digitised effects are uncommon in games and whole tunes are distinctly rare. *Fire and Forget* has a title tune that's digitised. Some bits are played reasonably well, but there are some sections of it that are diabolical. Sound effects in the game are good too. The graphics are big, colourful and fast, but they leap out of the screen at you rather than come towards you.

It looks good, sounds good and has plenty of fast and furious action. Unfortunately the gameplay lacks depth: shoot things, avoid things and shoot some more. If you just want some mindless blasting the it's good, but if your brain likes the ocassional bit of exercise it won't get any here.
GBH

SECOND OPINION

"Like it. Preferred it to Roadblasters, *in fact: it's got better controls and graphics. This is rapidly becoming an overworked genre, though, and anyone else out there working on something similar should make it truly original."* **SC**

GREEN SCREEN VIEW:
No major problems

● Fire and amnesiate



The Verdict

GRAPHICS 85%
- Big, bright and colourful.
- Enemies leap towards you.

SONICS 71%
- Digitised tune.
- Digitised tune!

GRAB FACTOR 67%
- Easy to just start blasting away.
- Drive around shooting and avoiding things.

STAYING POWER 56%
- Three difficulty levels and loads of wars.
- All very samey.

AA RATING 60%
- Lots of action...
- But little depth.

FIRST DAY TARGET:
Complete three wars on medium difficulty

PACMANIA

Grandslam ● £8.95 cass, £14.95 disk ● joystick/keys

Way back when Carey was still a teenager *(eh sonny what was that? – ed.)* there was *Pacman*, an arcade game in which you controlled a ball with a happy smiling face (the ball, that is, not you) as it wandered around a maze eating pills and avoiding ghosts. In the corners were power pills that allowed you to chase the ghosts and get your revenge. As with all successful arcade games there were sequels. *Pacmania* is the latest.

The major difference between *Pacman* and *mania* is perspective: the former is viewed from above and the latter is 3D. Gameplay is the same: you go around the maze, collect the pills and then go onto the next maze. To the right of the four way scrolling playing area is a score panel with your lives, score and a box to indicate special objects.

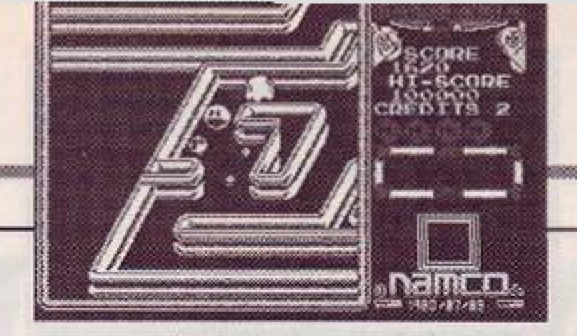
There are four mazes: Block Town, Pacman's Park, Sandbox Land and Jungly Steps. The first three are selectable as difficulty levels and the last one can only be got to after you've completed Sandbox Land twice – it doesn't matter which of the three difficulty levels you start on.

Besides pills and power pills there are occasional bonus items such as fruits for extra points or more useful speed up pills which make you move much faster (prunes? baked beans?). One thing that you can do in this and can't in 2D *Pacman* is jump over ghosts.

Colour is limited to two in the game itself, and while the graphics are simple, you'll have no problems working out what everything is. Vertical scrolling is fine, but the horizontal is jerky. Continuous tunes play on every maze and you also get the occasional sound effect.

Pacman has been around since way before the CPC and just changing it to a 3D game isn't enough. It's fun to play and should keep youngsters happy for a while, but you'll get bored before too long. **GBH**

First day target:
Complete Pacman's Park



● Power to the Pacmen

SECOND OPINION

"As with this month's Mastergame *– I favoured* Savage*; Gary didn't: Gary won – opinions on this differ here in AA Mansions. Perhaps he's played just too much* Pacman *in his time, while I was elsewhere battling it out in* Space Invaders *(why hasn't anyone brought out a version with coloured plastic strips to stick to your screen?). I thought* Pacmania *not bad at all: smooth (-ish), lively, funny. Don't know what's wrong with that Gary at all..."* **SC**

GREEN SCREEN VIEW: No problems

The Verdict

GRAPHICS 64%
- □ Smooth vertical scrolling...
- ■ But jerky horizontally.

SONICS 68%
- □ Great tunes in every level.
- ■ Infrequent sound effects.

GRAB FACTOR 62%
- □ Pacmaniacs will love it.
- ■ Old game with newish graphics.

STAYING POWER 59%
- □ Several levels of increasing difficulty.
- ■ Not enough depth.

AA RATING 63%
- □ For younger readers only.

THE GAMES

Epyx/US Gold ● £9.95 cass, £14.95 disk ● joystick/keys

With the long cold winter nights drawing in (as opposed to the short cold summer nights) Epyx have released *The Games*, a winter sports simulation rather similar to *Winter Games* (also by Epyx). So is this the kind of thing to get you rushing home, closing those curtains and getting down to a good old session on the CPC?

You begin with a standard menu: compete in all events, compete in some events, compete in one event, practice an event, and change controls. It can also display the opening and closing ceremonies (it helps if you play before selecting closing ceremonies). Now wait for the next stage...

● The Luge – a glorified downhill tin-tray race

After the wait comes the pretty but also pretty pointless opening ceremony, followed closely by the actual selecting of the names of your competitors. Up to eight people can compete and can choose their nationalities from a choice of seventeen countries ranging from Austria to West Germany via Japan (?) and Mexico (!).

After the preliminaries we reach the events themselves: Luge, Downhill, Slalom, Speed Skating, Figure Skating, Cross-Country and, my favourite, the Ski Jump.

Those who enjoy a good waggle are going to be disappointed: only the Cross-Country is a real rip-the-joystick-apart event. Most of the events require different controls and some fast reactions.

The Games is long on loading and short on excitement. It seemed as if the computer was doing everything for me and I could just sit back and relax – so I did. To sum up: try *Winter Games* first and then try *The Games* before I bought it. **GMB**

The Verdict

GRAPHICS 66%
- □ Good backdrops, as with all Epyx sports games.
- ■ Luge looks a little odd.

SONICS 57%
- □ Some good tunes.

GRAB FACTOR 64%
- □ Compete against up to seven other players.
- ■ Aren'tcha just fed up of winter sporting games?

STAYING POWER 56%
- □ Seven events.

AA RATING 59%
- ■ Good, but *Winter Games* is better.

SECOND OPINION

"No disagreeing with GMB here, folks: this is Winter Games II *and no mistake. Of course the loading problems he mentions are tape only, but for 464 owners it's something to bear in mind."* **SC**

GREEN SCREEN VIEW: OK

This review was written by Glen Baldwin, 15, with us for a week's work experience. Next year he hopes to join the Army as an aircraft technician.

ADVANCED PINBALL SIMULATOR

Code Masters ● £1.99 cass
Keys

The Oliver Twins' latest addition to their seemingly endless list of games is yet another simulator (how can sticking 'simulator' on the end of a game title increase sales?). It's just like one of those good old pinball machines that you find lurking in the darkest recesses of amusement arcades, only it doesn't cost you by the game. One to three take part.

To the right of the screen is a score panel for each player and how many balls they've got left. Most of the rest of the screen is taken up with the pinball table.

Each player has three balls to start with and one is lost if it drops out of the bottom of the screen. Lose all three and the game ends. You have four flippers: two right and two left. One key operates each pair of flippers.

Not only is there the high score objective, but there's also an objective to defeat an evil wizard (bring back the good wizards). A spell book appears when you light up the letters of MAGIC and it opens if you do it again. A weather potion and a magic cottage also lurk somewhere on screen.

The Verdict

GRAPHICS 48%
- ■ Wow, look all those moving graphics!
- ■ Stunning colour too!

SONICS 54%
- □ Nice to get another dose of Oli-speak.
- □ Good tunes.

GRAB FACTOR 53%
- □ Anyone can play, irrespective of age.
- ■ For pinball fanatics only.

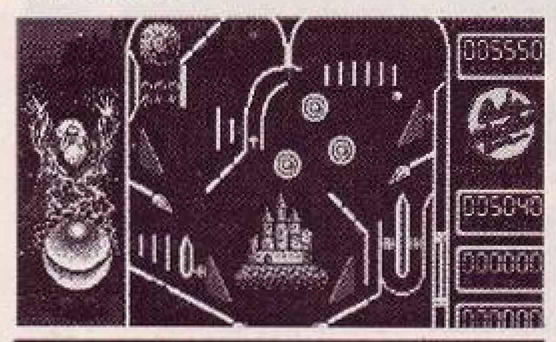
STAYING POWER 46%
- ■ Just a high score game really.

AA RATING 51%
- ■ Not the best ever Oliver Twins game.

There's the traditional bit of Oli-speak on the title screen and the sounds effects within the game are pingy and boingy (no relation to Pinky and Perky). There's a good title tune and the odd tune (and I do mean odd) during play. The background graphics are dull and uninspiring, and the only moving graphics are the ball and flippers.

Pinball may not seem the most likely game to come out on a computer, but at least it's more fun than a fruit machine. It plays reasonably well and should keep you occupied for a while. But it won't take long to tire of it. **GBH**

FIRST DAY TARGET:
50,000 points



● 'That deaf, dumb and blind kid sure plays a mean pinball!'

SECOND OPINION

"We slated Fruit Machine Sim *and the Olivers are still trying to find a bank large enough to accept the proceeds (only joking lads!). So what we say about* Pinball Sim *– and isn't half the fun trying to tilt without getting caught? – is unlikely to change your mind. It seems a game needn't be good to sell, just as a film doesn't have to be good for people to watch it."* **SC**

GREEN SCREEN VIEW:
No problems

JOE BLADE II

Players ● £1.99 cass
joystick/keys

Punks, thugs and muggers rule the streets, and only one man can break their reign of terror. Joe Blade. After all, with a name like that he could hardly be an accountant, could he? *(Oh couldn't he? – Joe Blade Esq, accountant, Worthing.)* Joe's last adventure was in an embassy siege and he's been dragged out of retirement on a mission to rid the town of the baddies.

The display is very similar to the one in *Joe Blade*, a flick screen street scene with doorways into and out of the screen. Across the bottom of the screen is a row of four icons (numbered one to four) and counters for dustbins, keys and citizens. Keys are needed to open doors.

No longer do you wander around with a machine gun – it's a kick in the head for the bad guys and smile when you say that in this game. Points are scored when you kill a yob, collect a dustbin or deal with a citizen.

Citizens are the dubious looking old gentlemen in long coats that stand in the middle of the streets. If you bump into one a puzzle appears that must be solved within a time limit. Solve the puzzle and you have have only 15 more to do. Fail to solve it and the game ends.

Graphics are good, but there's little colour used. The animation is good and sound effects are OK.

Joe Blade II suffers from the same flaw as *Thing* (reviewed last issue): lack of pace, though not, admittedly, to the same tedious extent. Solving the puzzles can be very frustrating, but you'll soon be able to do them all. Rescuing all sixteen citizens takes a while, but you could run out of enthusiasm before you solve it. **GBH**

SECOND OPINION

"Vigilantes, don't you just pity 'em? The rest of us spend our lives trying to avoid trouble, but people like Joe Blade just have to set foot in the street and thugs with low foreheads and hairy hands (Sunday Sport readers, probably) leap out from the alleys and attack them. Must be real tedious trying to do the shopping.

Still, not a bad game when all's said and done." **SC**

GREEN SCREEN VIEW:
Clear and easy to see

The Verdict

GRAPHICS 59%
- □ Nicely animated sprites.
- ■ Little colour used.

SONICS 37%
- □ Good sound effects.

GRAB FACTOR 64%
- □ Kick those heads in.
- ■ Puzzles are very frustrating initially.

STAYING POWER 53%
- □ Lots to do to rescue all the citizens.
- ■ Pace of play is a bit on the slow side.

AA RATING 60%
- □ Worth the price if you liked *Joe Blade*.

FIRST DAY TARGET:
Rescue six citizens



● Meet Citizen Kane (he's a bit of a pain)

SUPERSPORTS

Gremlin ● £9.99 cass, £14.99 disk joystick/keys

The first of Gremlin's sporting compilations this month is subtitled the *Alternative Olympics*. There are five unusual events to go through and from one to four players can take part.

There are three sections to the screen: the commentator, the main playing area and a picture of the player. Next to the picture of the commentator is a speech bubble into which he utters instructions and comments on the player's progress. The picture changes according to whose turn it is and the playing area changes for every game.

Crack shot is a target shoot game in which you have a time limit to shoot as many things as possible. Shoot a cat, though, and you lose points rather than gain them (a pity: it's fun watching them jump in the air).

Stunt diving is next. In this you climb steps up a diving board and press fire when you're at the height that you want to dive from – the higher you are the smaller the pool appears to be. Points are awarded for stunts you do on the way down and how well you stay over the pool. The higher the dive from, the more stunts you can do.

In the **slate smash** you have a time limit in which to smash as many slates as possible in true karate style. Two men hold the slates and you have to punch or kick them to bits (the slates, not the men). You have 90 seconds to fire six crossbow bolts as accurately as possible in the next event and the last one is an underwater assasult course.

The graphics are colourful and well animated with plenty of detail. Sound effects are of a similar standard and there are some good tunes too.

There are many sporting simulations on the market now and they all have loads of events to play through. This one has only five events and they're not particularly difficult to complete. You may find enough to occupy you for a few days, but after that? **GBH**



● Don't shoot the cat!

SECOND OPINION

"If you're crazy about sport sims you may be seeking this out, but for the rest of us there's not too much to get excited about here." **SC**

THE SCREEN IN GREEN: IS CLEARLY SEEN

The Verdict

GRAPHICS 64%
- ☐ Animated commentator.
- ☐ Colour's used well.

SONICS 56%
- ☐ Nice tunes.

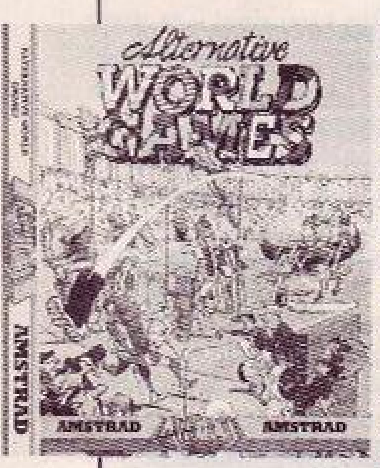
GRAB FACTOR 62%
- ☐ Best bit is shooting cats, and you lose points for that.
- ■ Instructions leave a little to be desired.

STAYING POWER 53%
- ■ No long term challenge, unless you play against another player.
- ■ Only five different events.

AA RATING 56%
- ☐ Sports sims freaks only

ALTERNATIVE WORLD GAMES

Gremlin ● £9.99 cass, £14.99 disk joystick/keys



Gremlin continue their alternative approach to sporting games with another bundle of events to play through. Before play commences you must choose a country and the number of players and then choose which of the eight events you want to play. There's also a choice of practice and competition levels to play at.

There are eight events to complete: **sack race, pile of plates, boot throwing, river jump, pole climbing, run up the wall, pillow fight and pogo.** In the **sack race** you compete with another human opponent or the computer in a race through the streets of Naples. The next one is a test of your balancing skill with a pile of plates. Reach the end of the course within the time limit – a higher score is obtained with a higher pile of plates.

In **boot throwing** you have a choice of water filled or empty, the former going further but also tiring you out quicker. The watery theme continues with the **river jump**, a pole vault with a wet difference. Verona is the scene of pole climbing which is a race for champagne, and then a descent back to the ground. Not too fast, though, or you'll drop the bottle. Like the sack race you can compete against another player or computer.

When in Venice you have to **run up walls** and stick a hat to it. The hat is conveniently supplied by a low flying parrot who drops it. Everyone must have had a **pillow fight** at one time or another: the difference with this one is that the loser gets dunked in water. Finally you can play on your **pogo stick** and burst balloons as you go along.

The graphics aren't brilliant and the animation isn't either. There's an excellent title tune and some reasonable effects within the game. Some of the events are fun to play, but yet again they lack anything to really draw you back again and again. At least you get eight events this time and they do vary considerably in style of play. Have a look before you make a decision though. **GBH**

● The sack race, *or*, life as an *AA* writer



The Verdict

GRAPHICS 58%
- ☐ Loadsacolour.
- ■ Slow horizontal scrolling.

SONICS 53%
- ☐ Brilliant loading tune.

GRAB FACTOR 56%
- ■ No cats to shoot!

STAYING POWER 48%
- ☐ Eight different events to play.
- ■ Takes days to load from cassette.

AA RATING 51%
- ☐ Too expensive for what it is.

SECOND OPINION

"Try before you splash out (or climb the wall, throw a boot...)" **SC**

GREEN SCREEN: Green



ROCKFORD THE ARCADE GAME

MAD X ● £1.99 cass
joystick/keys

In the beginning there was *Boulderdash* (*AA1*). Then there was the *Boulderdash Construction Kit* (*AA29*) and now Rockford's back in another adventure. The plot's the same: you travel around a vertical maze collecting treasures and not getting trapped or killed by falling rocks and hostile monsters.

The screen is a four way scrolling playing area, and below it is a panel with your lives, score, time remaining and number of treasures to collect. Bonus points are awarded for treasures collected in excess of the number required. If time runs out you lose a life and have to restart.

In all there are 80 screens to complete, divided into five different worlds. Each world plays the same, but has a different star: hunter, cowboy, spaceman, doctor and chef. The five worlds are divided into four levels, which are further sub-divided into four screens.

Graphically it's nothing spectacular – in fact it's very similar to the previous games in which Rockford starred. There are some good effects and great tunes. The scrolling is slow and jerky. Animation is crude but effective.

I was once an avid fan of *Boulderdash*, but I eventually tired of the same style of game, and that's what happened with *Rockford*. There are plenty of screens, loads of puzzles and the graphics vary from world to world, but it's still the same old game. Perhaps Rockford should stay buried under rubble this time. **GBH**

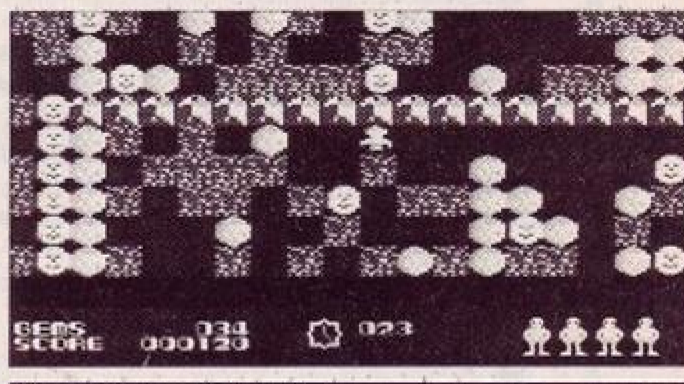
● There is the added bonus of a freebie game on the B side, *Back to Reality*, reviewed in *AA16* and rated at 81%.

SECOND OPINION

"This Boulderdash *clone isn't bad at all, but it's still a clone. The original was a classic and there have been few others on the Amstrad. At the price – and with* Back to Reality *on t'other side – it's pretty good value."* **PBM**

GREEN SCREEN: No problem

FIRST DAY TARGET:
Complete the first world



● Collect the gems (again)

The Verdict

GRAPHICS 58%
- ■ Plenty of colour, but not used very well.
- ■ Slow and jerky scrolling.

SONICS 57%
- □ Great tunes and
- ■ good effects.

GRAB FACTOR 54%
- □ Starts off easy, but the difficulty soon picks up.
- ■ Aargh! Not another Rockford game.

STAYING POWER 63%
- □ Eighty screens to complete.
- ■ Rockford must be tiring of jewel collecting by now. I am.

AA RATING 59%
- □ If you haven't got any *Boulderdash* games you could do worse than spend your money on this...
- ■ Otherwise wait for something more original.

SABIAN ISLAND

Skyslip Software ● £9.95 cass, £14.95 disk
joystick/keys

In 1999 *(do try and keep up with current events!)* the countries of the world have combined to form the World Council which governs the Earth. After six months a fanatical party under the leadership of Dr Q left the council. He's planted a nuclear bomb in New York and threatens to detonate it. You have been chosen to go to the island, find all the bits of the timing device, re-assemble them and save New York.

The playing area is a four way scrolling section of the island viewed from above. To the right is a map of the whole island and a four by four grid that fills up with pieces of the timer as you find them. Your score, lives and grenades are across the bottom of the screen.

Dr Q hasn't left his island unguarded though, for there are tanks, soldiers, minefields and mazes all over the island. (Hint: a good way of finding mines is to step on one.) Extra weapons can be picked up and you've also got to keep an eye out for pieces of timer.

If you collect all fifteen pieces the remaining time is available to you to re-assemble them into the shape shown before play begins. Do that and New York is saved, fail and it's time for the big firework to go off.

SECOND OPINION

"It really gives us no pleasure at all to knock the first release of a new game – and plenty of labels began awfully and became superb – but on the other hand it's hard to recommend you to spend ten or fifteen of your hard-earned on Sabian Island.*"* **SC**

GREEN SCREEN: OK

The Verdict

GRAPHICS 63%
- □ Colourful graphics.
- □ Poor scrolling.

SONICS 29%
- □ Tacky sound and no tunes.

GRAB FACTOR 38%
- ■ Invisible mines are annoying.
- ■ Wander around and shoot things.

STAYING POWER 41%
- □ Large playing area.
- ■ Puzzle at the end is confusing to solve.

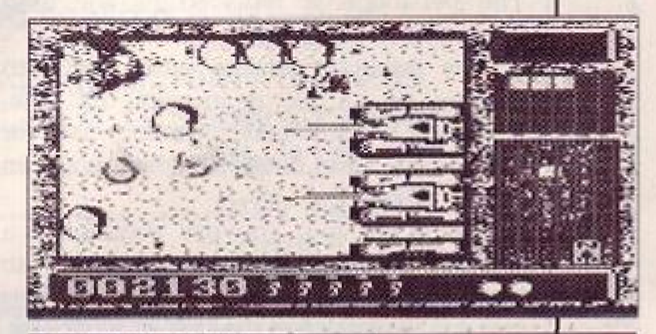
AA RATING 36%
- ■ It'd be OK for £2, but not at £10.

The scrolling is jerky and the animation is poor, but the whole thing's very colourful. There are no tunes and sound effects are tacky.

Sabian Island is Skyslip's first release and it has to be said it's not a brilliant start. Presentation is fine, but the gameplay leaves a lot to be desired. And more time should be spent on sound effects in future games. **GBH**

● Available from: Skyslip, 5 Stockton Rd, Sunderland, Tyne & Wear SR1 3NR

FIRST DAY TARGET:
Collect five timer pieces

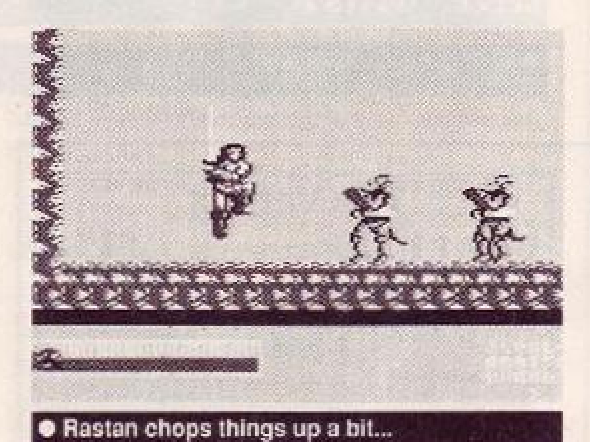


● A tank blocks the way

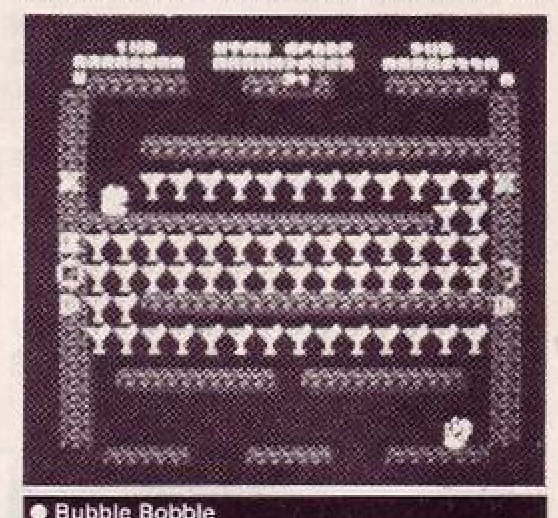
TAITO COIN-OP HITS

Imagine ● £12.95 cass, £17.95 disk joystick/keys

Two new games join six old ones on this compilation from Imagine. The six are *Slap Fight* (*AA24*, 76%), *Renegade* (*AA25*, 90%), *Arkanoid* (*AA22*,89%), *Flying Shark* (*AA31*, 73%), *Arkanoid II – Revenge of Doh* (*AA32*, 83%) and the absolutely stupendously terrifically marvellous *Bubble Bobble* (*AA30*, 81%). The duo are *Rastan* and *Legend of Kage*.


● Rastan chops things up a bit...

We'll restrict our comments to the new contributions. *Rastan* is a hack'n'slay type game with holes to jump over and hordes of monsters to dice. It's a multi-load, with lots of levels and plenty of objects to pick en route to your final confrontation with the evil wizard Karg.


● Bubble Bobble

The Legend of Kage is a gratuitous slay of lots of Japanese men and things by a lone Ninja, Kage. He's out to rescue a princess from an evil dragon king. It's a four way scrolling game split into four sections: the forest, outside the palace, the wall and inside the palace. Many ninjas must be defeated before you can go onto the next stage of the game.

Graphics vary considerably from game to game, the worst being in *Legend of Cage* and the best in *Renegade*. Sound also varies a lot, but comes out about average overall.

Eight games for £13/£18 is good value for money and four of the eight are particularly good: *Bubble Bobble*, *Arkanoid*, *Arkanoid II* and *Renegade*. If you don't have more than a couple of the above, *Taito Coin-Op Hits* could well be a suitable stocking filler. **GBH**



AA RATING 74%

- No problems on green screen.
- Excellent value for money.

OCEAN CONQUEROR

Rack It ● £1.99 cass joystick/keys

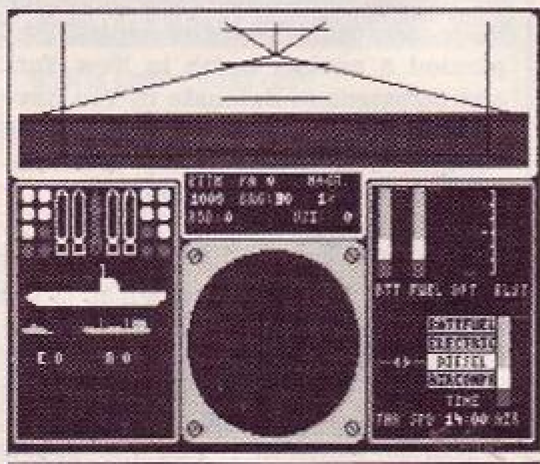
It's time to put on your sailor's cap and head out for the open sea again in the latest in a long line of submarine simulations (the last voyage was Grand Slams *Hunt for Red October*), and the first at budget price. Before you set sail a difficulty level must be selected from the range of captain to admiral – you can also choose whether you want fog or not, which is an option motorists could do with.

There are two areas: a periscope view in the upper third and an instrument panel in the other two thirds of the screen. The instrument panel has a radar screen, weapon information, speed, depth and your heading.

There's also a damage indicator to show what sort of condition the submarine is in. A map can also be called which shows your position in the playing area. The periscope is replaced by the map when you're submerged.

The ocean is packed with things to destroy or go to: destroyers, oil rigs, freighters, lighthouses, islands... Two of the islands have docks to which you can return for repairs.

There are four convoys containing a mixture of freighters and destroyers to hunt down, and you have to make sure you don't get sunk while doing it to them.


● Dive, dive, dive!

SECOND OPINION

"If you want a game that's not too fast you can't really get a slower subject than a submarine simulation. In a nutshell cruising around the ocean for days on end won't get anyone's pulses racing. Ocean Conqueror *is limited in that you can't turn your viewpoint with manoeuvering the submarine. When you actually find a convoy it's very difficult to hit anything before you're sent to Davy Jones' locker. The program has lots of nice features like a good radar display, damage control and anti-ship missiles, but these minor points can't offset the underlying tedium of the game. For sims fans only."*

PbM

GREEN SCREEN VIEW: No major problems

A good tune plays on the title and effects within the game are adequate. The graphics aren't what you'd call spectacular, but they're up to the job.

There are several difficulty levels and the playing area is quite large. Being able to accelerate time is always a useful option (can't do it at school though, more's the pity) and that's something in its favour.

Simulations are rare, and £2 ones are even rarer. Definitely worth a look.

GBH

FIRST DAY TARGET:
Sink a convoy

The Verdict

GRAPHICS 56%
- Easy to read instrument panel.

SONICS 48%
- Poor effects.

GRAB FACTOR 52%
- Accelerated time helps to relieve the tedium.
- Tricky to sink anything.

STAYING POWER 48%
- Skill levels range from captain to admiral.
- Too few variables.

AA RATING 54%
- An inexpensive submarine simulation.

AA SMALL ADS

FOR SALE

CF2 Printed Labels £2.00p/50, £3.50p/100: Index Cards for plastic disc-case £2.00p/25, £3.00p/50. Cheques to Mr S. Tonks, Unit 106, 266-290 Wincolmlee, Hull, HU2 0PZ.

CPC6128, colour monitor, built-in d/drive, loadsa software including Gauntlet II. All excellent condition. Cost £800. Sell for £300 for quick sale. Could make a great Christmas present. Tel: 09278 4286 (London area).

Spritemaker design your own sprites, Pixel perfect, multicoloured, incorporate into Basic M/code programs background sprite generator included. Only £9.99 per tape. RT Software, 8 Hazel Road, Llanmartin, Newport, Gwent. NP6 2HX.

Colour CPC6128, TV-receiver, new Epson printer, disc + tape software £200+, tape recorder, discs include pen down, good selection of utilities including Oddjob. Price £650. Tel: 01-804 9638.

CPC464, colour monitor, joystick, light-pen, cleaner, dustcovers, magazines (issues 5 to 39 AA), over £150 plus software. Excellent condition, £275 ono. Tel: Sheffield 402564, after 4pm. Caller must collect.

CPC6128, colour monitor, Multiface2, cassette player and lead, joysticks, disk box, disk and cassette software (games, adventures, languages, utilites) £350. Tel: Maidenhead (0628) 39447 evenings.

CPC6128, colour monitor, TV modulator, joysticks, cassette player with leads. Over 40 disc software titles and magazines. Immaculate condition. Worth £1000, asking £450. Contact Richard, Mill Hill, NW London. Tel: 01-959 1340.

Romboard high quality 4 slot £12.50 + £1 P&P sent by return. Cheques or postal orders to T&M Services, Crossfield, Firhouse Road, Dublin 16 or phone 0001 947552 for details.

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Selling software for profit. Best selling book now available on audio cassette. Listen and earn with ths 'talking book' guidance tape. Details from:- Notech, PO Box 75, Stevenage, SG1 5QB.

Collection back issues Amstrad Action, Amtix, CWA etc. Complete CPC system including lots extras cheap. Service manuals, books, hardware etc. LSAE lists. Mr Small, 8 Cherrytree Road, Chinnor, Oxfordshire, OX9 4QY.

Colour CPC 464, disc drive, light pen, Amdrum, AMX Mouse, joystick, speech synthesizer, 'doubler', copier, Multiface, magazines, £400 games – worth £1200 - bargain £290 ono. Enquiries: Tim (Derby) 850425 (after 6pm).

Amstrad CPC6128, colour monitor, cassette player, joystick, Multiface Two, magazines cost £490, plus £425 software. All fully boxed, excellent condition on sale for £425 ono. Tel: 01 946 7462.

Micro-Music Creator – Read the review in last month's AA? We are offering a 20% discount for a further month.Tape – £7.95, disc – £11.95 and rom £19.95 if you order before 1st December. Make cheques/POs payable to First Byte Software and send to: 71 Barn Glebe, Trowbridge, Wilts, BA14 7JZ. Tel: 0225 765086.

Small traders: Our simplified range of CPC business software includes Accounts, Invoicing, Stock/Mailing management etc. Recommended in reviews. SAE for catalogue. SD Microsystems (Dept AA), PO Box 24, Hitchin, Herts. Tel: (0462) 675106.

Real Time text adventure with interactive characters, written using P.A.W.S. plus quiz program £4.99 disc only. Send SAE to S.M. Langan, 33 Dacre Crescent, Kimpton, Hitchin, Herts, SG4 8QJ for details.

CPC6128 with colour monitor plus data recorder. Lotsa games on disk/tape, home accounts, joystick hardly used. bargain sell for £295. tel: 01 553 2762.

6128 car-doctor. The motoring utility program, features unique computer assisted fault finder for non-starting cars, engine diagrams, plus printout facility. £8.95 or SAE to: Notech, PO Box 75, Stevenage, SG1 5QB.

CPC464 with colour monitor and £450 software plus manual and many books and magazines £230 ono. Tel: Aidan on (01) 349 1367.

CPC 464 mono twin drives, 64K DKTram joystick, Tasword 6128, Tasspell, utilities, graphics, statistics, database, 20+ blank disks. All manuals £200.00. Tel: 01 840 1419.

Ideal Hacker's Christmas Present CPC PD Disk 1 includes ST style desktop, Sector editor, Extended Basic, File uneraser, graphics, loads more! Only £6 from DW Software, 62 Lascelles Avenue, Withernsea, HU19 2EB.

Ideal Hacker's Christmas Present 2 CPC PD Disk 2 - lots more great software. Wordsearch generator, Pontoon, BASIC libraries, Pilot language, lots more. Only £6 from DW Software, 62 Lascelles Avenue, Withernsea, HU19 2EB.

Ideal Businessman's Christmas Present CPC Business disk – Includes Alphabase - a powerful command driven database, and Busigraph business graphics. Includes two large manuals. Only £8 from DW Software, 62 Lascelles Avenue, Withernsea, HU19 2EB.

'Criss Cross Give Take' an original game for two or more players only £6.00 tape or disc. Please state machine. Rod Beare, 'Carrisbrook', Higher Cross Meadow, Sampford Peverell, Devon, EX16 7BB.

Earn money from your micro. For further details send SAE to: AA1, 429 Portway, Bristol, BS11 9UQ.

WANTED

Wanted computer expert to trace patterns in laws of chance (applied to gaming) in exchange for valuable information already gleaned. Tel: 0792 531303/531195.

Manager/agent for assembler programmers. Highly original and prolific output (language, games, utilities). Please write Palfrey Brothers, 45 Bringhurst, Orton Goldhay, Peterborough, PE2 0RS

Wanted laser genius for CPC464. Any reasonable price paid. Ian Taylor, 2 Trinity Court, Ashby-de-la-Zouch, Leics. LE6 5LY. Tel: 0530 413165 after 6pm.

SERVICES

Earn extra income with your Amstrad. Cash in on the demand for office services. Unique guide shows you how to get started. SAE to Avoncliffe, 5 Cliffe Drive, Limplet, Limpley Stoke, Bath, BA3 6HY.

Public domain Forth-83 100% CPC 6128 compatible now usable on single systems only £5.00. MBasic program. Conversion to text £5.00/disk to: R Sheridon, 76 Medeswell, Orton Malborne, Peterborough, Cambs. PE2 0PB. Tel: 238887.

Loads of Public Domain software. No big adverts, so very cheap. Plus FREE games and utilities. Send SAE for details to: E Prattley, 30 Mellor Brow, Mellor, Blackburn, Lancs, BB2 7EX.

Hackers, tape-to-disc, disc-disc, disc-tape, disc editor, de-protect, speedlocks, disc cloning, handles funny formats etc. Tape £8.00, disc £10.00. Cheques/POs or SAE for details. E Prattley, 30 Mellor, Blackburn, Lancs.

Tape-to-disc conversion 464/6128; send original tape(s) plus a disc & 75p per game (max. 6 games per disc. Compilation tapes 70p each game. If you want tapes returned add 30p per tape to total cost. We also run a Disc Recovery Service recovering erased games etc. We can supply discs for £2.50. State whether 464/6128. Send SAE for FREE transfer list & games for sale. D R Hudson, 13 Cromwell Road, St Austell, Cornwall. Tel: 0726 65640. Please note new address.

USER GROUPS

Free software! 2 titles each to the first 50 applicants for membership (£2.00) with CPC Users club. Write : C.U.C, 58 Hawkins Street, Hill Top, West Bromwich, B70 0QS. Don't delay!

This section of the magazine offers you the chance to speak directly to the huge waiting world of CPC owners – or would be owners. Users report good results. You can place an ad of up to 30 words for just £5. So you could use it to sell a printer or launch a user group or publicize a piece of software you've written. One thing you can't advertise is the sale or swap of software. Such ads can be misused by pirates. Fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 2-7 weeks after we receive your order.

Order form *Send to: AA Small ads, Future Publishing Ltd, 4 Queen Street, Bath BA1 1EJ*

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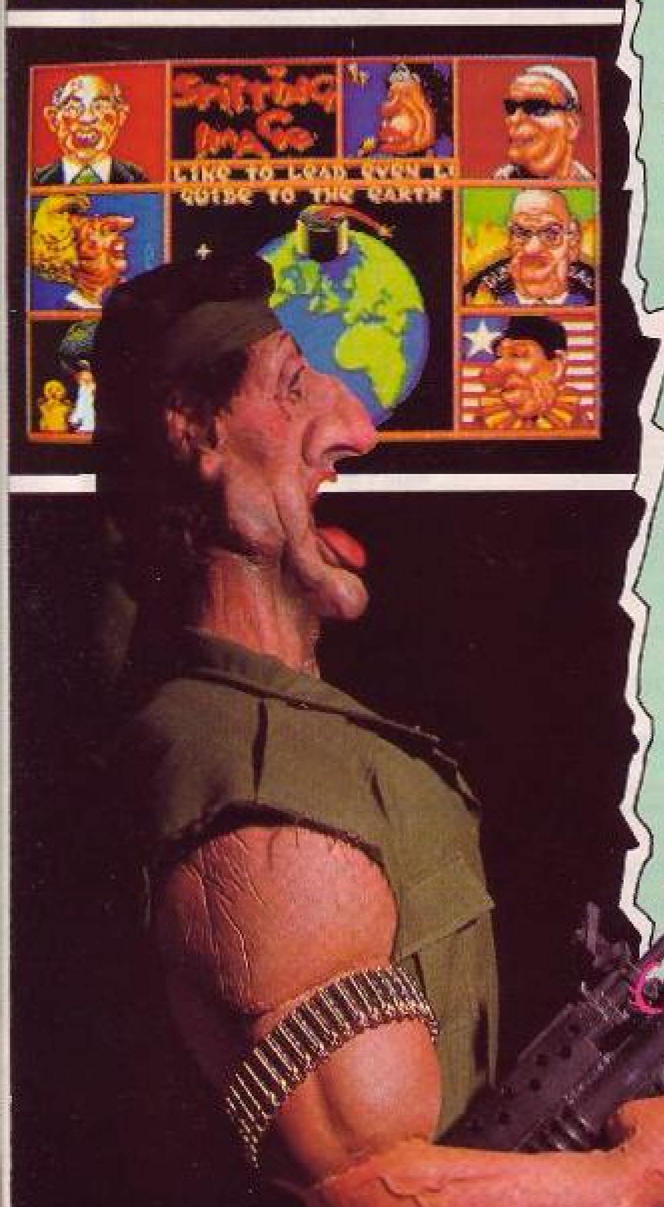
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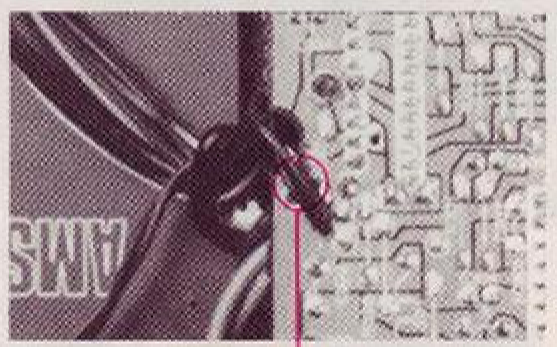
SOLDERING ON

Pat 'Motormouth' McDonald replaces the 464 tape motor

CPC's have been around for four years. The 464 has a built-in tape unit that set the standard – if it couldn't load on a 464, it couldn't be loaded.

Nothing lasts forever. Tape units are filled with moving parts which can get choked with dust. Professional repair technicians earn money just from cleaning such machines. If the tape motor wears out, the cure is replacement.

The symptons are gradual. Tapes loaded tend to speed up and slow down. Games whch use special loaders become impossible to load, although Basic listings **SAVED** and **LOADED** in the normal way are OK – for a while...



● The bare unit – notice the wires

He's twigged

After extensive research, I can say that tape motors don't grow on trees. Instead, get one from CPC Ltd (☎ 0772 555034) – the part number is AM170208, and the price is £11.50 (incl. p&p.). (Hint: once you have a new tape motor, mark it with a tick or something, so a mix-up can't occur.)

First, make sure that the power is off, then disconnect all the monitor leads plus any extras like RS232 ports, disk drives, printers, joystick, etc. Once you have a bare keyboard, turn it over.

You will notice six screws, which have to be undone.Turn the case over again, and *gently* separate the two halves. Notice the two ribbon cables – these must be unclipped on the base unit, which should be put to one side.

Compare the cassette unit to the photograph. The red and black wires pointed out must be de-soldered, in order to dismantle the unit further. Write down which one goes where! For the same reason, loosen the clips holding the wires together on the 'top' of the unit (away from the Play, Record etc. buttons).

So far so good

This is the second trickiest bit. You have to trace which wires come out of the motor, and where they go. Done that? Then desolder them, in order to remove the motor. Make a note of which wire goes to which solder point – one of the wires is a shield for the other (i.e. a bundle of copper strands wrapped around the main wire).

You should have read this *before* you started!

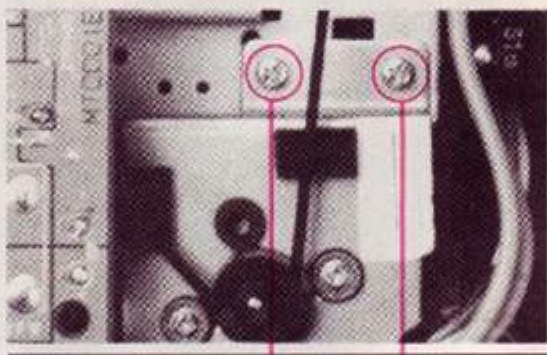
If, despite the catchy headline to this box, you are reading this *after* unscrewing your Amstrad, I've got some bad news for you. Your guarantee is now void. In practice, however, the only CPCs which need a replacement motor should be out of guarantee anyway.

Furthermore this project requires some drastic treatment of your machine, and fair competence with a soldering iron. So if you are not too happy about your expertise, then take the replacement motor to an electrical repair shop, together with your Amstrad. Explain what you want them to do. They'll charge, but it will work.

Finally, don't go mad when you're unravelling the wires: only two, perhaps three stays need to be loosed. Just so long as you can tilt the topmost circuit board enough to desolder the motor wires, replace the motor etc.

Compare the two wires with the replacement, to make sure that you can connect it the right way around. Not that anything drastic happens if you do make a mistake: well, all your tapes will be played backwards. Easily repaired.

Once you are sure about the motor's connections, refer to the photographs to locate just which screws to undo. The replacement motor will have a metal plate attached. This screws onto the tape unit.



● Unscrew *these* two screws

First, remove the tape drive belt from the motor. Having located the two screws, which hold the motor plate, remove them. The old motor should now be easily removed from the main tape unit. Put the new one in, but before you do the screws up fully, thread the wires to their destinations. Now solder them as instructed by your notes. Check them again because *nasty things* might happen if you get it wrong.

Reassembly

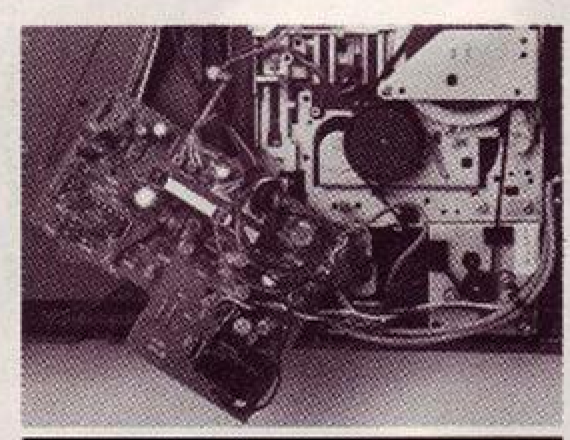
Tighten the screws and put the drive belt back on. This is easier said than done – my favourite method being to put it onto two spools, then wind it through onto the third.

Once you have the tape belt/motor assembly working well, tidy up the rat's nest of wires. Unlike rodent tails, the cables retain their shape, so it's not tricky. When that's sorted, resolder the red and black wires. Grab the base half (no earthy jokes, please!) and reconnect the ribbon cables. Now put the two halves together: don't screw them together

Plug in your 464 to the monitor. It should power up as normal. Try to press rewind – if the tape counter starts going backwards, then congratulations! You have a working 464 again. If not, switch off and check your soldering – the most likely explanation is you have soldered a wire to the wrong place.

The motor may be noisy at first. It should wear in after an hour or two. Once the motor goes around constantly then you have to calibrate the azimuth. First, take a small crosshead-ed screwdriver and insert it into the hole on the tape unit. Next, do the screw right up. Now undo it till it's about half way. Put a long playing tape full of something like *Type-Ins* or lots of *Cheat Mode* pokes. Type **CAT**, and start the tape

By making small adjustments with the screwdriver, you should reach the approximate optimum position, i.e. you see a list of program names appearing, rather than `Read error b`. Further tweaking has to be done to load games with special loaders – but, once done, you don't have to bother with it for a long time. Our 464 has happily loaded everything over for the past two months: it couldn't have for five minutes before the repair.



● Careful with that soldering iron!

Warning: we've gone to great lengths to make sure the information contained here is correct, but we can't take responsibility for what happens. If you're in doubt, get an expert to do it for you.

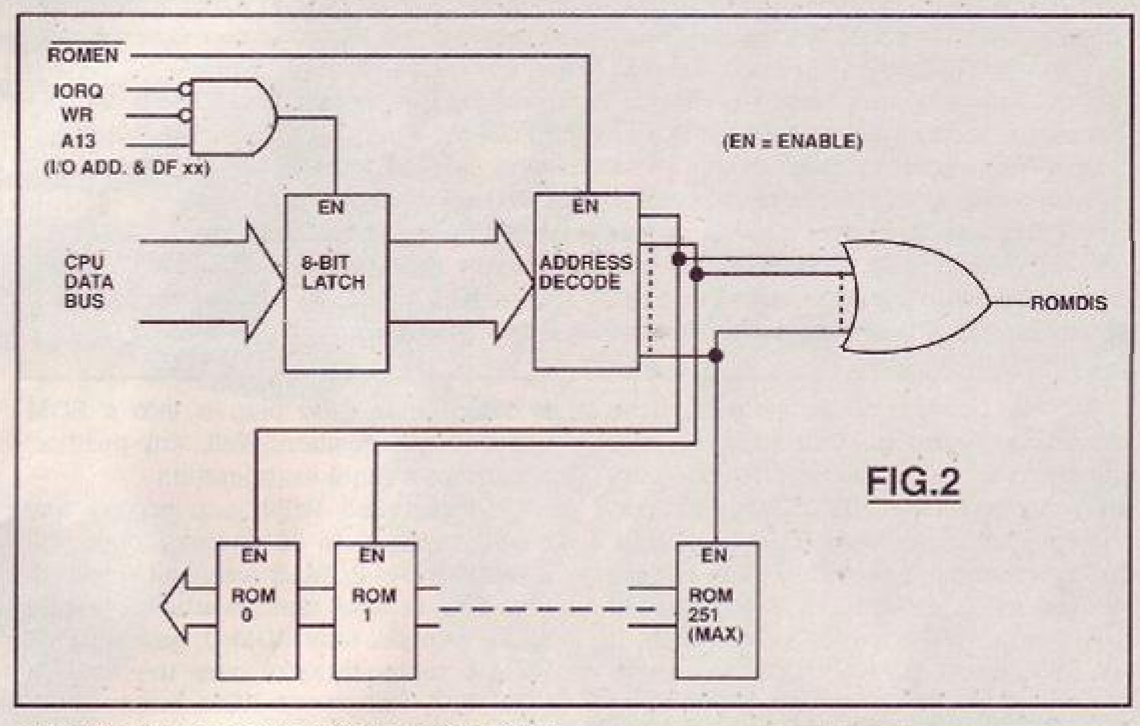


WHEN IN ROM...

Paul Calter on Read Only Memories

To say the CPC is a games machine is like saying a Porsche Carrera will get you from A to B. While both observations are true, they are gross understatements. What is it, then, that gives the CPC its unseen (and often unused) power?

A technique used mainly in mainframe computers to give them more apparent power is *virtual memory*. This involves giving the machine a memory which is logically speaking infinite, but physically limited – that is, it has a fixed size. A commercial company can pay many thousands of pounds for this attribute, because it means that the computer can run programs much larger than the actual amount of memory available. (Cue dramatic music) *Yet for a few hundred pounds, you have bought yourself a virtual memory machine!*



Thanks for the memory

While a mainframe's operating system is the prime component of virtual memory, it cannot achieve its goal without certain hardware features. On the CPC, however, it is these hardware features that contribute the greater share of work – though they would be useless without the software to drive them. With regard to CPC RAM, it cannot be said that the techniques used are truly virtual: the 6128 comes close with its extra 64K of memory that can be paged in, overlaying existing memory.

When we consider what can be done with ROM, we move closer to the ideal of virtual memory. It is possible to have external ROMs connected to a CPC. In fact, the limit for such activity is 252, a total of 4Mb – over *four million* bytes of memory!

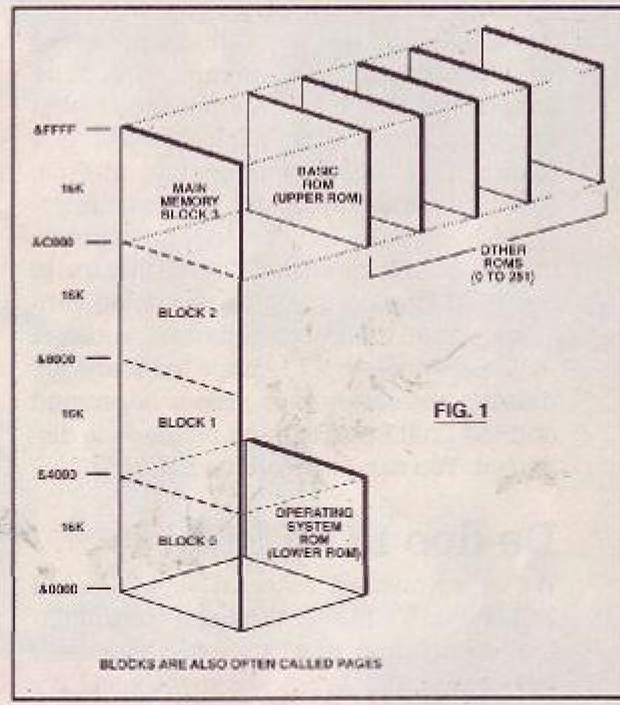
Map reading

Let's take a peek at the memory map. This is only true for 64K machines (128K machines have more memory). The hardware I'll be discussing doesn't affect the RAM switching.

Notice that the memory has been divided into 16K blocks. This is an artificial division – there's no gap in between &3FFF and &4000, honest! In parallel to the lowest 16K block is the operating system ROM – this 'firmware' (hard software, you see) looks after things like writing characters on screen, playing sounds through the speaker, reading the joystick and keyboard, etc.

In parallel to the highest 16K RAM bank (the screen memory, usually) is the Basic ROM. This contains all the commands used by the Basic language, and allows entry of programs, as well as handling the running of such programs. The external ROM's also fit into this memory area, sharing it with the upper ROM and screen.

(If you look inside the CPC, you'll see that both sets of ROM are held in one 32K chip. They're split up by some clever hardware that fiddles the chip into thinking it's two chips.)



A plug for chips

To use external ROM's we have two requirements. The first is some provision to plug the chips into. This has various components:

1. a through-connector for other add-ons (not compulsory);

2. one or more 28-pin sockets in which to insert the ROM's;

3. the logic circuits to select a particular ROM (only one external ROM can be selected at any one time);

4. the gating circuits to enable ('switch in') the selected ROM, and get the data from it;

5. and a logic circuit to disable internal ROM when external ROM has been enabled (the CPC won't do this for you!).

Address	Range	Purpose
&C000	0,1,2,&80	Determines type of ROM: external foreground, back ground, extension or internal.
&C001	0-255	Mark number of ROM.
&C002	0-255	Version number.
&C003	0-255	Modificatiorn number.
&C004/5	0-65535	Address of command table
&C006/7	0-65535	Start of command jump table.

Note: the first location is given as &C000, because that's where ROM's sit. Also, from &C006 would contain the addresses of the routines used (and incorporated in) the ROM.

All aboard!

We want your project *now!* And we pay too: between £40-£60 according to quality and presentation.

Include full diagrams. Members of our tireless *(and legless)* art-team redraw them, so don't worry if it isn't brilliant – just make it clear and easy to understand. Send your widget, gadget or thingummy to: *Hardware Projects, AA*, 4 Queen St, Bath BA1 1EJ.

ROM service

To get machine code onto ROM chips you need a device called a ROM blower. John Morrison (☎0532 537507) does one for £39.95. It doesn't have a through connector though: if you want one you'll have to build it yourself – the kit costs £31.95, inclusive of an edge connector. Richard Monteiro reviewed it in *AA19*, and although he could get on with it (being 'fluent in machine code' and 'having a warped mind'), most people would find it too user-unfriendly to make it worthwhile. Still, if you're fluent and mind-warped, perhaps it's for you...

If, on the other hand, you're not fond of the idea of doing-it-yourself, then DJ Software (25 Dovedale, Stevenage, Herts SG2 9EP) provide a ROM programming service. They pack as much Basic and/or machine code into a 16K ROM as possible, for £9.95 per chip. Programs cost 50p each on top, and Basic programs will set you back another 50p too.

ROM chips themselves come in various varieties. The two main types are the 2764 (8K capacity) and the 27128 (16K). CMOS (cheap but easily damaged) as well as LSTTL (Low power Schottky Transistor-Transistor Logic – fairly robust but pricey) are interchangeable. Costs vary considerably, anywhere between £3 and £7. Shop around!

Now to the second component of the system, the **firmware.** When the machine is switched on, or a system reset occurs (by pressing **CTRL/SHIFT/ESC**), the operating system in the lower ROM is entered. The housekeeping procedures are begun: various system variables are setup in RAM, as is the system call jump block. If you could freeze the machine at this point, you would see on the screen the first two lines of the power-up sequence – the Basic message would not have appeared yet. At this point, an attempt is made to jump into the first external ROM that might be fitted. If no external ROM 0 is found, then there's a jump into internal ROM, which is, of course, the Basic interpreter. The Basic ROM is now in complete control of the machine. The firmware in the ROM sets up a few more system variables, and then attempts to initialise ROMs numbered 1-7. Any it finds are initialized, the interpreter proper is entered and the final Basic sign-on message is displayed. You can now use the machine.

De doo ROM ROM

We've mentioned external ROM 0, and ROMs 1 to 7. These numbers seem limiting, considering that you can supposedly have up to 252. What about the rest? It's about now that things get complex, and we need to understand the two different types of external ROM.

The first type is the foreground ROM. Firmware of this type takes total control over the machine. The Basic ROM is a foreground ROM, as are ROM's like *Maxam* the assembler, *Protext* the wordprocessor, etc. The other type is (you've guessed!) the background ROM. This type (usually) contains routines which can be accessed from Basic by means of bar (|) commands, and they sit there, in the background, waiting to be of service when called upon. The disk ROM is of this type, as is *Utopia* the toolbox and *Commstar.*

A ROM does not have a number written into it: the position on the ROM board determines its number. For example, the disk ROM usually lives at ROM 7, either inside the machine or in the DDI-1 interface in the case of a 464: but you can take it out of there and plug it into a ROM board at any position. Well, 'any position' is perhaps a slight exaggeration...

A foreground ROM may occupy any position from 0 to 251 (even though the internal Basic ROM is assumed to be 0). However, at reset time an attempt will be made to enter only ROM 0, any external ROM 0 taking priority over the internal ROM 0. A foreground ROM in any other position must be accessed by the user.

Background ROM's cannot be placed in position 0. The technical explanation for this is that when the attempt is made to enter external ROM 0 on power up/reset, no attempt is made to return from the external ROM. Foreground ROM's at 0 just aren't supposed to hand control back over to either internal or external control. Background ROM's always return from its initialisation, and a return at this point will cause the machine to re-initialise... Result: the CPC goes into an endless loop.

Restrictions, restrictions

So where can we put our background ROM? Before answering that, there is another restriction. The routine used to select external ROM checks the number, and if it is less than 1 or greater than 7 (15 on 664's/6128's) then it exits without further action. So you can see that it's a good idea to limit ROM numbers from 1-7, at least for background ROM's. Note that the system uses numbers 251 and up for its own hidden purposes. ●

What's in a ROM, anyway?

Q: what's in a ROM, anyway?

Both types contain machine code. A foreground ROM must contain some routines to control functions that the hardware doesn't take care of, and also, of course, initialize any background ROM's that it might want to use, just as the internal Basic ROM does.

Other than that, the first few locations of all ROM's must conform to a specific stadard (see the box).

Q: how do you access the ROM's from machine code?

(Trying to look at them from Basic? Forget it!) The answer depends on the ROM type. Foreground ROM's are accessed by the system call, MC START PROGRAM (&BD16), which is the one used by the operating system on power up, albeit through a different call: MC BOOT PROGRAM (&BD13). At that time, though, it will only select ROM 0.

(Just as a matter of interest, four foreground ROMs with consecutive numbers can be grouped together to give, effectively, a foreground program 64K long. Access between them is given by SIDE CALL (RST &10). Such ROMs are called extension ROMs.)

Background ROM's may be accessed in at least three ways:–

Select – A number between 1 and 7 is sent to the ROM board, on I/O address &DFxx, that is between &DF00 and &DFFF. Until a different number is sent, the ROM of that number has now been selected. It will not ouput any data until it is requested to.

Enable – When upper ROM is enabled, by the signal ROMEN going low, the last selected ROM can now output data. At this point, the ROM board must produce the signal ROMDIS, which re-enters the machine to disable the internal ROM.

Initialise – the internal ROM is selected; it is enabled; it is then entered at address &C006 (determined by design), and it will perform the various tasks it needs to do to become operative (reserve memory, etc). When it has finished, it relinquishes control, and is disabled (and probably de-selected).

You can see that any external background ROM you wish to use must be initialized first. This may be accomplished by use of the system call KL INIT BACK (&BCCE). This is not normally necessary, as the operating system will initialize all available ROM's on power up/reset. It does this with the call KL ROM WALK (&BCCB), which 'walks' around all possible ROMs, initializing them if they exist.

Using the facilities in ROM is easy enough from Basic. The extra commands pretend that they're RSX's, or bar commands. Got a disk? The commands |ERA, |DIR, |TAPE etc are all contained in the disk ROM. |COPEN and CREAD are inside the Amstrad RS232 ROM. Using these commands from machine code is slightly trickier if you don't know the name – use KL FIND COMMAND (&BCD4) to find the address and ROM number, then access the routine with RST &18. You don't need to enable or disable ROM's the hard way – just let the operating system work for you.

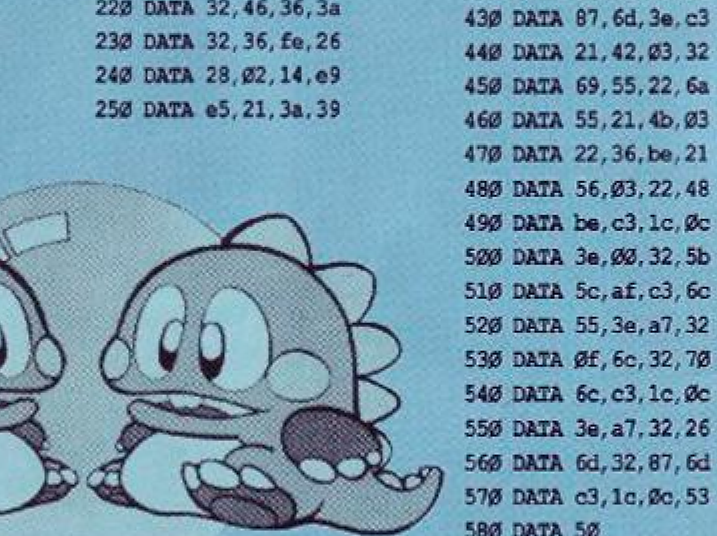
CHEAT MODE

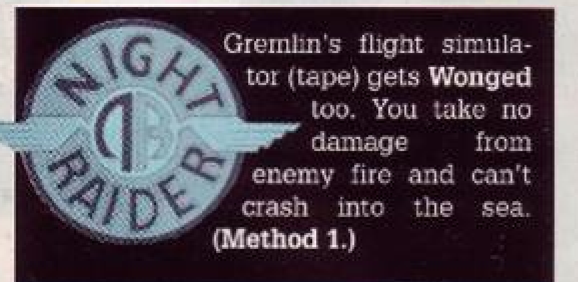
Get the toughest games going!

Bubble Bobble

Mike Wong of Sale has hacked into the tape version of Firebird's game of bubbles. You can choose the starting level in part one and also have infinite lives in both parts. **(Method 1.)**

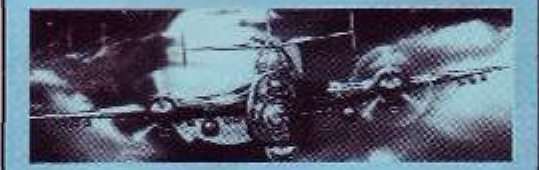
```
1 'Bubble Bobble-tape
2 ' by Mike Wong
3 ' Amstrad Action Dec 87
1Ø MEMORY &3BFF
2Ø GOSUB 17Ø
3Ø PRINT"Start level ";
4Ø INPUT "(1-79)";lvl
5Ø POKE &BE71,lvl-1
6Ø BORDER Ø:MODE 1
7Ø LOCATE 13,2
8Ø PAPER 3:PEN 2
9Ø PRINT" BUBBLEBOBBLE "
1ØØ WINDOW#1,15,27,1Ø,1Ø
11Ø WINDOW#2,15,27,13,13
12Ø LOAD"!BUBBLE1"
13Ø POKE &3C7Ø,&C3
14Ø POKE &3C71,Ø
15Ø POKE &3C72,&BE
16Ø CALL &3CØØ:END
17Ø FOR n=&BEØØ TO &BE9Ø
18Ø READ a$:a=VAL("&"+a$)
19Ø POKE n,a:c=c+a:NEXT
2ØØ IF c<>118ØØ THEN 59Ø
21Ø RETURN
22Ø DATA 32,46,36,3a
23Ø DATA 32,36,fe,26
24Ø DATA 28,Ø2,14,e9
25Ø DATA e5,21,3a,39
26Ø DATA 36,c3,23,36
27Ø DATA 26,23,36,be
28Ø DATA 21,7Ø,3c,36
29Ø DATA 32,23,36,46
3ØØ DATA 23,36,36,e1
31Ø DATA 14,e9,21,5f
32Ø DATA 39,36,c3,23
33Ø DATA 36,37,23,36
34Ø DATA be,3a,37,bd
35Ø DATA c3,3d,39,21
36Ø DATA 2Ø,Ø3,22,c7
37Ø DATA 3e,cd,ØØ,4Ø
38Ø DATA 21,4e,be,11
39Ø DATA 2Ø,Ø3,Ø1,42
4ØØ DATA ØØ,ed,bØ,c3
41Ø DATA 62,39,3e,a7
42Ø DATA 32,26,6d,32
43Ø DATA 87,6d,3e,c3
44Ø DATA 21,42,Ø3,32
45Ø DATA 69,55,22,6a
46Ø DATA 55,21,4b,Ø3
47Ø DATA 22,36,be,21
48Ø DATA 56,Ø3,22,48
49Ø DATA be,c3,1c,Øc
5ØØ DATA 3e,ØØ,32,5b
51Ø DATA 5c,af,c3,6c
52Ø DATA 55,3e,a7,32
53Ø DATA Øf,6c,32,7Ø
54Ø DATA 6c,c3,1c,Øc
55Ø DATA 3e,a7,32,26
56Ø DATA 6d,32,87,6d
57Ø DATA c3,1c,Øc,53
58Ø DATA 5Ø
59Ø PRINT"ERROR..."
```





Gremlin's flight simulator (tape) gets **Wonged** too. You take no damage from enemy fire and can't crash into the sea. **(Method 1.)**

```
1 'Night Raider-tape
2 ' by Mike Wong
3 ' Amstrad Action Dec 87
1Ø DATA 21,ØØ,4Ø,11,ØØ
2Ø DATA Ø1,Ø1,ØØ,Ø2,ed
3Ø DATA bØ,21,34,Ø3,22
4Ø DATA Ø5,Ø1,c3,ØØ,Ø1
5Ø DATA af,32,aa,98,21
6Ø DATA 18,25,22,1b,77
7Ø DATA c3,3Ø,41,53,5Ø
8Ø DATA **
9Ø MEMORY &3FFF
1ØØ LOAD"!",&4ØØØ
11Ø n=&32Ø
12Ø READ a$
13Ø IF a$="**" THEN 17Ø
14Ø a=VAL("&"+a$)
15Ø c=c+a:POKE n,a
16Ø n=n+1:GOTO 12Ø
17Ø IF c<>2147 THEN 19Ø
18Ø CALL &32Ø
19Ø PRINT"Error..."
```



Black box

➤ Most games are heavily protected these days, resulting in longer pokes.

➤ Many of you have one of the infamous black boxes that can be used to stop programs – the Multiface 2 from Romantic Robot for example.

➤ Often the only thing that they're used for is transferring games from tape to disk, but they can also be used to hack games for infinite lives etc.

➤ This occasional section is for owners of the Multiface 2 and similar devices so that they can poke games without typing in huge listings.

➤ Here's how you enter them:

➤ Plug the Multiface into the expansion slot at the back of your keyboard. (Multiface 2 owners: make sure that the switch on the front is in the up position.)

➤ Load the game that you want to poke in the usual manner following the instructions supplied with it. (Multiface 2 owners: move the switch to the down position after it has loaded.)

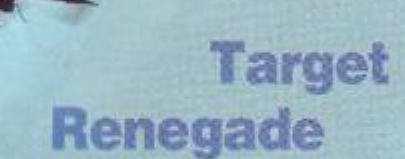
➤ Press the red button on the Multiface and a menu appears at the bottom of the screen. Press 'T' for tool and then 'H' to change input to hexadecimal.

➤ Press the spacebar and type in the number under the Addr column. Next type in the number under the Poke column.

➤ Repeat this process until you've entered all of the pokes that are listed for the game and then press 'ESC'.

➤ Press 'R' to return to the game. It then runs with the pokes that you've just entered.

Game	Addr	Poke	Effect
Arcticfox	a3ØØ	ØØ	Infinite shields
Batman	1c9Ø	ØØ	Infinite lives
Gryzor	1526	a7	Infinite lives
Nebulus	85ef	ØØ	Infinite lives
Renegade	Øa48	a7	Infinite lives
Space Harrier	Ød74	ØØ	Infinite lives
	Ød33	c9	Invulnerability
	Ø864	c9	No trees
	1Øfc	c9	Aliens don't fire
	128f	ØØ	Rapid fire
Trantor	1614	ØØ	Invulnerability to aliens
Wizball	a93a	a7	Infinite lives



Target Renegade

Imagine's bash-em-up sequel gets infinite lives and ten minutes to complete the levels. It's another Mike Wong special for the disk version, put the *Target Renegade* disk in the drive and RUN the poke.

```
1 'Target Renegade-disk
2 ' by Mike Wong
3 ' Amstrad Action Dec 87
10 MODE 2:MEMORY &7FFF:k=160
2Ø FOR n=&8ØØØ TO &811Ø STEP 16
3Ø FOR p=Ø TO 15:READ a$
4Ø b=VAL("&"+a$)
5Ø POKE n+p,b:c=c+b
6Ø NEXT:READ x$
7Ø d=VAL("&"+x$)
8Ø IF c<>d THEN 9Ø
9Ø k=k+3Ø:c=Ø:NEXT
1ØØ PRINT"Insert Target ";
11Ø PRINT"Renegade disk..."
12Ø CALL &BB18
13Ø CALL &8ØØØ:END
14Ø PRINT"Error in line";k;"to";k+2Ø
15Ø END
16Ø DATA cd,Ø5,81,21,Øc,8Ø
17Ø DATA 22,11,Ø1,c3,ØØ,Ø1
18Ø DATA Ø1,7e,fa,af,52Ø
19Ø DATA ed,79,cd,d7,8Ø,21
2ØØ DATA 83,1d,Øe,23,cd,ef
21Ø DATA 8Ø,3e,4d,32,775
22Ø DATA aØ,4d,32,a3,4d,3e
23Ø DATA c3,32,fd,4f,21,3Ø
24Ø DATA 8Ø,c3,f9,8Ø,79b
25Ø DATA 21,a6,1d,Øe,13,cd
26Ø DATA ef,8Ø,3e,4d,32,b8
27Ø DATA 4d,21,43,8Ø,5e7
28Ø DATA c3,f9,8Ø,21,b9,1d
29Ø DATA Øe,Øe,cd,ef,8Ø,3e
3ØØ DATA 4d,32,c5,4d,75a
31Ø DATA 21,56,8Ø,c3,f9,8Ø
32Ø DATA 21,64,8Ø,22,e5,1d
33Ø DATA 3e,24,21,d3,6b2
34Ø DATA 1d,c3,Ø2,81,21,72
35Ø DATA 8Ø,22,2c,1e,3e,66
36Ø DATA 21,Øc,1e,c3,494
37Ø DATA Ø2,81,21,8Ø,8Ø,22
38Ø DATA 5c,1e,3e,11,21,3c
39Ø DATA 1e,c3,Ø2,81,45Ø
4ØØ DATA 21,61,1e,Øe,Ød,cd
41Ø DATA ef,8Ø,3e,4e,32,6c
42Ø DATA 4e,21,99,8Ø,5a9
43Ø DATA 22,fe,4f,21,65,21
44Ø DATA c3,61,4e,21,7a,1e
45Ø DATA Øe,11,cd,ef,61c
46Ø DATA 8Ø,3e,4e,32,8a,4e
47Ø DATA 21,b4,8Ø,22,fe,4f
48Ø DATA 3e,69,21,7a,61c
49Ø DATA 4e,c3,Ø2,81,21,a8
5ØØ DATA 1e,11,ØØ,aØ,Ø1,bd
51Ø DATA Ø2,ed,bØ,21,5aa
52Ø DATA c8,8Ø,22,d1,aØ,c3
53Ø DATA 55,aØ,af,32,ce,Ø4
54Ø DATA 32,a3,Øf,3e,768
55Ø DATA 3a,32,98,1Ø,c3,ØØ
56Ø DATA Ø1,21,83,1d,11,83
57Ø DATA 6d,Ø1,fØ,Ø3,48e
58Ø DATA ed,bØ,c9,21,83,6d
59Ø DATA 11,83,1d,Ø1,fØ,Ø3
6ØØ DATA ed,bØ,c9,Ø6,788
61Ø DATA ØØ,7c,c6,3Ø,57,5d
62Ø DATA ed,bØ,c9,22,fe,4f
63Ø DATA cd,e3,8Ø,c3,8ee
64Ø DATA 83,4d,ed,4f,e9,21
65Ø DATA ØØ,Ø1,11,ØØ,ØØ,Øe
66Ø DATA 41,df,11,81,4e8
67Ø DATA c9,3c,cØ,Ø7,ØØ,ØØ
68Ø DATA ØØ,ØØ,ØØ,ØØ,ØØ,ØØ
69Ø DATA ØØ,ØØ,ØØ,ØØ,1cc
```

POKE METHODS ON TAPE

Here's how to input most *Cheat Mode* tape pokes – the instructions for each poke tell you which of the two to use. 664 and 6128 owners: first type |tape.

METHOD 1

Rewind the game tape to the beginning, type in the poke listing and then type RUN and press the Enter key. (Don't use the key marked CTRL or Control, or the poke won't work.) Press the Play key on the cassette deck, then any key on the main keyboard - spacebar does nicely. The tape should now play through as normal.

METHOD 2

Skip the first bit of the game program. To do this, rewind the game tape to the beginning; type in the listing; now type CAT and press Enter. Start the tape by pressing Play and then any key. Soon you'll see the message: "Found something Block 1". It doesn't matter what the something is, and it varies from game to game. If the *Cheat Mode* instructions just tell you to skip the first block, stop the tape here.

If the instructions tell you to skip things, stop the tape when the "Found" message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape.

Shorten the odds

- We receive dozens of pokes, and the ones published tend to be on cassette or disk, unless they're very short (get the hint?).
- Include an SAE if you want your disk or tape returned.
- Make sure your name and address is on everything you send us!

Dizzy

The game on the cover of AA 37 has a cheat mode built in. To access it you must first pause the game and then type "THANKS". Dizzy disappears and you can use the keys Z,X, K and M. to see all the different rooms. When you find one that you want to be in just press the space bar to unpause the game.

What do you have to do to win an ENTIRE ISSUE'S RAVES?

To win an entire issue's *Rave* software – and that includes the *Mastergame* – all you have to do is produce an excellent map, poke or set of playing tips.

The best solution each month wins a copy of every *Rave* and the *Mastergame* of that issue. The number of games varies of course, but in a good issue it can be half a dozen. We also give runner-up prizes every month of a *Rave* or the *Mastergame*.

This month's prize of £5,000,000 goes to Gary Barrett. Ok, the real winner of the *Mastergame* and all the *Raves* this month is Mike Wong for his assortment of pokes. The runners up who each receive a *Rave* or the *Mastergame* are Phil Howard, Julian Page and Neil MacDougall. Congratulations all, and keep them coming – we appreciate your efforts! (And to all those who send in pokes and maps: if at first you don't succeed, try, try again!)

THE BARD'S TALE

Part one Gary Barrett helps you prepare for the journey

The Guild of Adventurers

The first thing you should do before setting out on your quest: trash the supplied party and create one of your own. The balance should be three fighters, two spell casters and a bard. A bard is not essential, but is useful in some parts of the game.

Exit the Guild of Adventurers and select the bard by pressing the appropropriate numeric key. Pool all of the gold and then re-enter the Guild. Remove all of the characters from the start-up party except for the bard and then start to create your own party.

Make your own bard

Create a bard first and then transfer the Fire Horn and gold to your new bard. Remove the old one and then finish off building the party.

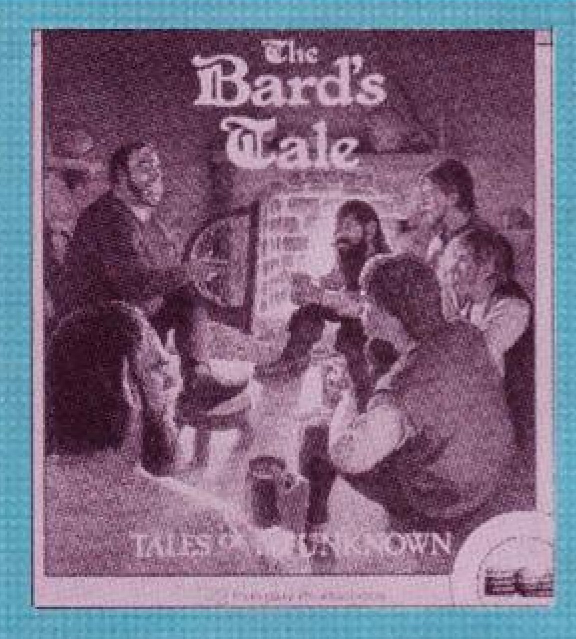
Try to give characters a high constitution because this gives them bonus hit points as they go up levels and any spell casters are much better if they have 17 or 18 IQ. High dexterity makes you more difficult to hit and high strength causes more damage in melee.

Once you have your party of adventurers it's time to leave the safety of the Guild and explore Skara Brae looking for excitement, adventure and really wild things. But before you leave save the party.

Return to the Guild on a regular basis to keep saving, because there's nothing more frustrating than gaining enough experience to go up a level and then getting slaughtered on the way back to the guild.

Skara Brae

Here's how you can find the nearest temple as soon as you leave the Guild: go south four times, east twice, south twice, face west and kick the door open. You're now inside the temple where you can be healed. Unless you found any monsters on route you won't need healing so just



exit.

Another useful place to find is Garth's Shoppe. Go back to the Guild and then go north three times, face east and kick the door open.

Once inside Garth's you must choose a party member and then you can buy or sell equipment. (Don't worry about identify at the moment, that's used when you find something that you don't recognise.)

Each member of the party has some gold to buy things with and so you should start to equip them. Spell casters can only wear a robe for defence and are limited in the weapons that they can use.

Give them a dagger or staff. You won't have much money to begin with and so the best that you're likely to be able to equip your warriors and bard with is leather armour, a shield – oh, and make sure that they have a weapon of some kind.

Pool the gold to a character if they don't have enough money, but don't overspend or you won't be able to heal anyone at a temple.

When you leave Garth's select each character in turn and equip them with the items they just bought.

Any with armour will have their armour class improved. Weapons inflict more damage, but that won't become apparent until you actually fight something.

When you've finished equipping go north four times and then west thrice and south twice. Face east and kick the door open. You're now inside the Review Board. This is the place to come when you want to increase your level, but at the moment you're a couple of thousand experience points short of second level.

Next door to the Review Board is a tavern, a place where the bard can refresh himself for another little ditty.

The Adventure Begins

At low levels you're better off only being out in the daytime (every time you enter and leave the Adventurer's Guild a new day dawns) because more and larger groups of monsters wander the streets at night.

Stick to the area between the temple and review board for a while, because at least you won't have far to go to reach a temple or the Guild. Only fight small groups and/or weak opponents to begin with.

Dwarfs, Kobolds, Goblins and spiders are easy prey to a low level party, unless there are loads of them.

Beware barbarians

Barbarians and Nomads are dangerous to low level parties because they can quite easily kill you. If you want some experience quickly then find the temple mentioned above and go south three times and you'll find a Samurai statue.

Cowards should leave it alone, but the brave (or stupid) should attack. If you kill then you'll get lots of experience; if you don't then either reload the last party you saved or start again.

Move south once, face east and kick the tavern door open. If you've got some third or fourth level characters then perhaps you'll want to try something a little more challenging.

Order a drink – it doesn't matter which character orders – and ask for wine. You'll be sent into the wine cellar to fetch it and the here you'll find some more dangerous foes.

Next month we enter the Cellars

The Bard's Tale is published by US Gold (☎ 021 356 3388) at £9.95 for the cassette and £14.95 for the disk.



GO-Loaders – Part 4!

Phil Howard has some pokes for the infamous *Go-Loaders*. If you already have the Lock-key program (from *AA*33 and 34) you don't need to type in the following program: if you haven't then type in the LOCK program and save it to tape or disk using SAVE"LOCK".

Next type in the poke that you want (e.g. BEDLAM) and save that to tape or disk using SAVE "BEDLAM",A.

Reset your computer and do the following:

```
LOAD"LOCK"
MERGE"BEDLAM"
RUN
```

Place the game cassette in the tape deck and press play. The poke takes about 3.5 minutes to run.

```
1Ø '**** LOCK ****
2Ø '
3Ø Y=Ø:RESTORE 1ØØ
4Ø FOR  x=&42ØØ TO &4386
5Ø READ a$:a=VAL("&"+a$)
6Ø y=y+a:POKE x,a:NEXT
7Ø IF y=37465 THEN 59Ø
8Ø PRINT"ERROR IN LOCK":END
9Ø '
1ØØ DATA FE,ØØ,2Ø,Ø3,C3,3B,43,FE
11Ø DATA Ø1,2Ø,Ø7,DD,36,ØF,F6,ØE
12Ø DATA 1Ø,C9,FE,Ø2,2Ø,Ø7,DD,36
13Ø DATA ØC,F9,ØE,ØD,C9,FE,Ø3,2Ø
14Ø DATA ØF,DD,36,1E,E9,DD,7E,ØC
15Ø DATA D6,1Ø,DD,77,ØC,ØE,1F,C9
16Ø DATA FE,Ø4,2Ø,Ø7,DD,36,11,F6
17Ø DATA ØE,12,C9,FE,Ø5,2Ø,Ø7,DD
18Ø DATA 36,1Ø,F6,ØE,11,C9,FE,Ø6
19Ø DATA 2Ø,Ø7,DD,36,ØD,F8,ØE,ØE
2ØØ DATA C9,FE,Ø7,2Ø,Ø7,DD,36,1B
21Ø DATA EE,ØE,1C,C9,FE,Ø8,2Ø,Ø7
22Ø DATA DD,36,ØE,F7,ØE,ØF,C9,FE
23Ø DATA Ø9,2Ø,Ø7,DD,36,23,CØ,ØE
24Ø DATA 24,C9,FE,ØA,2Ø,13,DD,E5
25Ø DATA E1,11,Ø6,ØØ,19,7C,D6,1Ø
26Ø DATA DD,75,15,DD,77,16,ØE,17
27Ø DATA C9,FE,ØB,2Ø,13,DD,E5,E1
28Ø DATA 11,Ø6,ØØ,19,7C,D6,1Ø,DD
29Ø DATA 75,14,DD,77,15,ØE,16,C9
3ØØ DATA FE,ØC,2Ø,13,DD,E5,E1,11
31Ø DATA Ø7,ØØ,19,7C,D6,1Ø,DD,75
32Ø DATA 1Ø,DD,77,11,ØE,12,C9,FE
33Ø DATA ØD,2Ø,ØF,DD,7E,Ø3,D6,1Ø
34Ø DATA DD,77,Ø3,DD,36,1A,E9,ØE
35Ø DATA 1B,C9,DD,36,1D,2Ø,DD,36
36Ø DATA 1E,EB,ØE,1F,C9,F3,21,39
37Ø DATA 7D,11,39,5D,ØØ,Ø1,ØØ,ØD
38Ø DATA ED,BØ,21,36,6D,11,37,6D
39Ø DATA Ø1,ØØ,1Ø,36,ØØ,ED,BØ,36
4ØØ DATA C3,23,36,34,23,36,43,21
41Ø DATA D5,42,11,39,6D,Ø1,ØD,ØØ
42Ø DATA ED,BØ,21,4Ø,6D,36,EB,21
43Ø DATA 5Ø,7D,11,5Ø,6D,Ø1,15,ØØ
44Ø DATA ED,BØ,21,FF,4Ø,DD,21,58
45Ø DATA 7D,23,E5,7E,CD,ØØ,42,DD
46Ø DATA E5,E1,5D,7C,D6,1Ø,57,Ø6
47Ø DATA ØØ,DD,Ø9,ED,BØ,ED,73,ØØ
48Ø DATA 4Ø,C3,39,6D,ED,7B,ØØ,4Ø
49Ø DATA E1,18,DE,E1,ED,4B,Ø2,4Ø
5ØØ DATA D9,C3,89,BE,22,D7,42,7C
51Ø DATA D6,1Ø,67,22,FB,42,22,32
52Ø DATA 43,E5,7C,D6,1Ø,67,22,DA
53Ø DATA 42,E1,2B,2B,2B,22,E3,42
54Ø DATA 23,22,E6,42,11,Ø9,ØØ,19
55Ø DATA 22,Ø3,43,11,1Ø,ØØ,19,22
56Ø DATA ØB,43,11,ØØ,1Ø,19,22,Ø8
57Ø DATA 43,11,Ø8,ØØ,19,22,17,43
58Ø DATA F3,D9,ED,43,Ø2,4Ø,C9
59Ø '
6ØØ '**** KEY ****
61Ø '
62Ø y=Ø:x=&41ØØ:RESTORE 74Ø
63Ø WHILE a$<>"ØØ"
64Ø READ a$:y=y+VAL("&"+a$)
65Ø POKE x,VAL("&"+LEFT$(a$,1))
66Ø POKE x+1,VAL("&"+RIGHT$(a$,1))
67Ø x=x+2:WEND
68Ø '
69Ø '----------------------------
```

Inside Outing

Another poke from Phil Howard that uses the infamous Lock-key routine which first appeared in issue 33 of *AA*. If you have the Lock-key then just merge the *Inside Outing* poke with it and run, otherwise you have to type it in first. It gives you infinite energy on the cassette version of the game.

```
1 ' Inside Outing - tape
2 ' By Phil Howard
3 ' Amstrad Action Nov 88
710 IF y=4552 THEN 810
720 PRINT"Error in key":END
730 '
740 DATA 17,4e,a6,61,6a,4d,1a,45
750 DATA 64,14,85,2c,34,59,54,8b
760 DATA 14,91,15,15,bb,d8,a4,41
770 DATA 15,51,31,19,32,bb,6b,51
780 DATA a1,b4,2a,c6,9e,15,7c,11
790 DATA 2e,4a,4c,bd,15,41,73,1e
800 DATA a2,15,2d,40,00
810 '
820 ' *** Cheat ***
830 '
840 y=0:RESTORE 900
850 FOR x=&BE80 TO &BEA9
860 READ a$:a=VAL("&"+a$)
870 POKE x,a:y=y+a:NEXT
880 IF y=5500 THEN 960
890 PRINT"Error in Cheat":END
900 DATA cd,9a,be,cd,44,43,c3,d5
910 DATA 42,21,92,be,22,ff,ab,c3
920 DATA 78,aa,cd,03,b9,af,32,44
930 DATA 0f,c9,f3,21,cc,21,11,cc
940 DATA a1,01,00,0d,ed,b0,21,cc
950 DATA a1,c9
960 MEMORY &1FFF
970 LOAD"inside outing",&21CC
980 PRINT"Don't Panic...This takes
forever"
990 CALL &BE80
```

Bionic Commando

This is also a **Phil Howard** Lock-key poke for Go's green game. Enter it like the other Lock-key pokes.

```
1 ' Bionic Commando - tape
2 ' By Phil Howard
3 ' Amstrad Action Nov 88
710 IF y<>5099 THEN 810
720 PRINT"Error in Key":END
730 '
740 DATA 1b,4d,14,3a,1a,48,c4,11
750 DATA 7a,11,14,a9,d1,e5,ec,1b
760 DATA 49,48,6d,e2,6b,46,19,a4
770 DATA 14,23,11,bd,51,c6,c5,55
780 DATA 54,16,76,45,b5,43,2a,a1
790 DATA 59,51,53,24,b1,26,51,21
800 DATA b7,18,a4,b0,00
810 '
820 ' *** Cheat ***
830 '
840 y=0:RESTORE 910
850 FOR x=&BE80 TO &BEA7
860 READ a$:a=VAL("&"+a$)
870 POKE x,a:y=y+a:NEXT
880 IF y=4319 THEN 960
890 PRINT"Error in Cheat":END
900 '
910 DATA 21,31,94,cd,44,43,c3,d5
920 DATA 42,21,92,be,22,5b,9e,c3
930 DATA d4,9c,cd,03,b9,3a,c4,0e
940 DATA fe,35,20,06,3e,00,32,c4
950 DATA 0e,c9,3e,00,32,cc,0e,c9
960 MEMORY &1FFF
970 LOAD"BIONIC COMMANDO"
980 PRINT"Don't Panic...This
     takes forever"
990 CALL &BE80
```



Cheat Mode Extra:
The complete cheat!

Will we stop at *nothing* to help you beat that game? Now, heavens above, courtesy of 16 year-old Scott Baggley, we provide nothing less than a *complete list of every single cheat, tip and map that has ever appeared in AA!* The information is listed as an issue number followed by a letter or combination of letters that identify the sort of help supplied.

A	Amendment (correction)
M	Map
P	Tape poke
PD	Disk poke
POD	Tape to disk
S	Solution
6P	6128 poke
T	Tip
MT	Multiface poke

A

ACADEMY	21:T+S
AGENT X 2	29:T
AIRWOLF	1:T,2:P,6:P,11:M,32:P
AIRWOLF 2	27:P
ALIEN BREAK-IN	12:P
ALIEN HIGHWAY	15:P,20:P
ALIENS	19:T,20:P,23:S,26:P,30:A
AMAUROTE	23:P,25:P
AMERICAN FOOTBALL	4:T
AMSGOLF	1:T+C,3:T,7:T+C
ANDROID 2	19:P,21:P
ANGLEBALL	28:P
ANIMATED POKER	9:P
ANTIRIAD2	0:M+S+T,23:P,31:PD,32:P
APPRENTICE	15:P,16:P
ARKANOID	22:PD,23:A,25:P+6P,26:P+6P,36:P 37:MT
ARKANOID II	34:C
ARMAGEDDON MAN	27:T
ARMY MOVES	23:P
ASPHALT	23:T,25:PD
ASTERIX	19:S
ATF	35:P
AUF WIEDERS, MONTY	23:P
AVENGER	18:P,19:M,22:PD

B

BACK TO REALITY	18:T+P
BALLBREAKER	25:P
BALLCRAZY	25:P
BARBARIAN	26:P,27:A,31:PD
BARDS TALE	38:P
BATMAN	9:M,11:P,12:6P,15:PD,28:P,32:PD 38:MT
BATTLEFIELD GERM	21:T+C
BATTY	28:P,35:P
BEACH-HEAD	2:T,4:T,11:T,14:P+6P
BEDLAM	36:P
BIGGLES	14:T,19:T
BLAGGER	2:C,8:P
BMX SIMULATOR	23:P
BOBSLEIGH	30:T
BOMB JACK	11:P,16:P,21:P
BOMB JACK 2	21:P
BOMBSCARE	30:PD
BOSCONIAN	28:P
BOULDERDASH	2:T,6:P,9:P,22:P,27:P,31:P
BOUNDER	11:P
BOUNTY BOB ST BACK	11:P,34:P
BOY RACER	30:P
BRAVESTAR	34:P
BREAKTHRU	32:P
BRIAN BLOODAXE	6:P
B.JACK'S CHALL	4:T
BRUCE LEE	6:C,22:P
BUBBLE BOBBLE	35:P

C

CAMELOT WARR.	24:P
CAULDRON	6:P,7:T+A
CAULRON II	12:M,14:S,38:MT
CAVES OF DOOM	7:P
CHALL. OF GOBOTS	24:P
CHILLER	10:P
CHIMERA	6:M
CHOLO	25:T,37:PD
CHRONOS	23:P+C
CHUCKIE EGG	3:P,12:P,30:P
CLASSIC AXIENS	16:P
CLASSIC INVADERS	13:P
CLASSIC MUNCHER	24:P
CLIMB-IT	32:P
COBRA	23:P+6P,24:T
COMBAT LYNX	1:T,3:T,6:T+P,10:POD,32:P
COMBAT SCHOOL	29:P,30:A
COMMANDO	11:P,14:PD,29:P+PD,30:A
CONQUEST	16:T
CONTRAPTION	17:P,18:A
COVENANT	4:P,9:M,10:A,11:P,12:PD,13:P
CRAZY CARS	38:PD
CURSE SHERWOOD	23:P
CYBERNOID	34:P+PD
CYLU	8:M

D

DALEY DECATH	11:T
DALEY SUPER-TEST	32:PD
DAN DARE	14:M,16:T,18:P,29:P,30:A
DAN DARE II	21:P
DARK SIDE	37:M,37:P,37:PD,37:MT
DARK STAR	2:C
DEATH WAKE	11:C
DEEP STRIKE	20:P,22:PD
DEFEND OR DIE	1:P,6:P,7:T
DESOLATOR	36:P
DEVIL'S CROWN	10:T
DIZZY	28:T
DOOMDARK REVEN.	15:M,17:P,19:A
DOOMSDAYS BLUES	22:P
DOORS OF DOOM	32:PD
DRAGON'S LAIR	19:P+PD
DRAGONTORC	3:M,5:M
DR DESTRUCTO	25:P,28:C
DRILLER	28:T,29:P+PD+T+M, 30:P+PD,31:T,32:A,35:T
DRUID	16:M,18:T+P,20:C,27:C
DUCT	29:P+PD,30:P+PD
DUET	31:P
DUN DARACH	1:T+M,3:T,4:T,24:P,38:MT

E



EIDOLON	19:S
ELECTRO FREDDY	3:P,34:P
ELITE	7:T,8:T,11:T,14:T,16:A, 18:T,20:PD,22:A,23:A
ENDURO RACER	27:P
EQUINOX	18:P,21:C,32:P
ESCAPE SINGE'S	21:PD
EVERYONE'S WALLY	2:T+M,4:T,5:P
EXOLON	25:C,26:P,27:P+PD,34:P

F

F A CUP FOOTBALL	10:P
FAIRLIGHT	10:M,11:T
FANTASTIC VOYAGE	5:T
FEUD	20:M+T,21:P,22:P,28:P
FIGHTING WARRIOR	8:S
FINDER'S KEEPERS	3:T,9:P,34:P
FIRELORD	18:M
FLYING SHARK	32:P
FLY SPY	23:C,24:A,26:T
FOOT MANAGER	23:C
FOUR SMASH HITS	34:P
FOURTH PROTOCOL	15:S,17:S
FRANKIE GOES	10:T
FRANK BRUNO'S	2:T+C
FREDDY HARDEST	28:P,37:MT
FROST BYTE	18:P
FRUITY FRANK	6:T
FUTURE KNIGHT	29:P

G

GALACTIC PLAGUE	5:C,19:C
GALLETRON	25:C
GALVAN	16:T
GAME OVER	25:P
GAUNTLET)	6:P
GAUNTLET	18:T+P+PD,19:P+PD+T+A, 21:A+T,29:P+PD,30:A
GAUNTLET 2	31:P
GET DEXTER	9:M,10:T,12:P,15:T ,21:T,27:P,34:PD
GET DEXTER 2	34:PD,35:S+M+T
GHOST HUNTERS	20:C,26:P+C
GHOST'S N GOBLINS	14:T+P,16:T
GHOULS	4:P,9:T
GLIDER RIDER	18:PD,22:P+PD,23:A
GO-LOADERS	33:P+PD,34:P+PD,36:P+PD
GOLDEN TALISMAN	19:P
GOTHIK	35:P
GRAND PRIX RALLY 2	21:C,24:C
GRAND PRIX SIM	23:C
GREEN BERET	12:S,14:S+P+6P,16:PD, 17:PD,19:PD,38:MT
GRUMPY GUMPHREY	8:T,10:P
GRYZOR	31:P,37:P
GUNSTAR	26:P
GYROSCOPE	10:P

H

HACKER	5:M+T,6:S
HACKER 22	7:T

HARRIER ATTACK	9:T,31:P
HEAD OVER HEELS	22:M+P+PD
HEARTLAND	17:M,18:P+PD,19:P+PD
HEAVY ON MAGICK	11:M,12:P+T,15:T,31:P
HERBERT'S DUM RUN	11:P,17:P,18:A
HIGHWAY ENCOUNT	8:P,10:A,12:6P,30:P+6P
HIVE	22:P,26:P
HOW TO BE A BAST	26:T
HUNCHBACK	3:P,32:P
HUNCHBACK 2	22:P,32:PD
HYDROFOOL	23:P,26:T
HYPERSPORTS	6:T

I

ICON JON	18:S
IKARI WARRIORS	17:T,18:P,19:PD,20:P+PD,21:T,31:P
IMPACT	38:T,38:PD,38:MT
IMPOSSABALL	20:P+C,21:PD
INDY JONES	30:C
INFILTRATOR	16:T,18:T
INHERITANCE	20:S
INTO EAGLES NEST	21:M,23:C,25:PD
INTO OBLIVION	13:P

J

JACKLE AND WIDE	26:P
JACK THE NIPPER	13:T+M,15:P+PD,19:C
JACK THE NIPPER 2	34:T
JAILBREAK	24:P
JET SET WILLY	4:P,6:A,7:P,12:6P+PD,22:PD
JOE BLADE	38:P

K

KARL'S TREASURE	1:P,3:A
KAT TRAP	18:P,27:T
KETTLE	19:C
KILLAPEDE	15:P,20:C
KILLER GORILLA	6:P,19:P
KILLER RING	23:PD
KNIGHT LORE	3:P
KNIGHT TYME	13:S+M+P,24:P,28:P
KRAKOUT	24:P,26:P
KUNG FU	6:POD+P+PD,7:A
KUNG FU MASTER	12:T

L

LASERWARP	11:P
LAST V8	10:P+M
LEADER BOARD	28:P
LEGEND OF KAGE	19:T
LIGHTFORCE	16:P+PD,17:P+PD,28:P,30:A
LITTLE COM PEOPLE	20:PD
LIVING DAYLIGHTS	25:S,26:P,27:S,37:MT
LOCO-MOTION	24:P
LORD'S OF MIDNIGHT	4:S,5:T

M

MAG MAX	24:P,27:PD
MANIC MINER	7:P,22:PD,32:P,34:A
MARSPORT	4:M,5:T
MASTERS UNIVERSE	31:P
MATCHDAY	3:T
MATCH POINT	24:C,25:C
MELTDOWN	12:T,16:C
MERCENARY	21:M+T
METAL ARMY	38:P
MIAMI VICE	38:PD
MIKIE	19:PD
MISSION GENOCIDE	25:P,26:P,28:P,30:PD
MISSION JUPITER	27:P
MONTY ON THE RUN	11:T,15:P,21:6P,29:P
MOONBUGGY	19:P
MOON CRESTA	20:P
MOTOS	27:P,28:P
MR FREEZE	21:C
MUTANT MONTY	19:P,21:P

N

NEMESIS	23:P
NEXOR	15:P
NIGHTSHADE	6:M
1942	19:P,20:P,31:P
NINJA	24:S
NODES OF YESOD	18:P
NOMAD	10:P,12:6P,32:PD
NONTERRAQUEOUS	3:T,4:P+M+T,7:A
NO1	6:POD+P+PD,7:A

O

OBSIDIAN:	5:M+T,9:P
OH MUMMY	22:P
ONE MAN N DROID	7:T,10:P
OUTRUN	37:PD

P

PALITRON	26:P
PAPERBOY	24:P+PD
PARABOLA	28:P,30:PD
PINBALL WIZARD	7:P
POWERPLAY	15:P
PRICE OF MAGIK	14:M
PROHIBITION	25:P,27:PD,37:P
PROJECT FUTURE	24:P
PUNCHY	1:P
PYJAMARAMA	3:P,5:T
PYRAMYDYA	31:P

R

RADZONE	12:P,18:C
RAID	3:T,9:T
RAMBO	10:T+P,12:6P,30:P+6P
RAMPARTS	33:P
RANARAMA	25:P+T,36:PD
RASPUTIN	8:M
RASTERSCAN	36:P
REBELSTAR	19:C
RED LED	30:S
REFLEX	34:C
REM	9:T
RENEGADE	27:P,30:PD,31:PD+C+T
REVOLUTION	16:P
ROAD RUNNER	26:PD,27:C
ROCK'N WRESTLE	11:T
ROCKY HORROR	35:P
ROL GOES CATER	15:P
ROL GOES DIGGING	3:P
ROL IN SPACE	3:C
ROL IN TIME	3:P,32:PD
ROL IN THE CAVES	3:C,19:C
ROL ON THE ROPES	3:P
RYGAR	34:P,38:MT

S

SABOTEUR	13:P
SABOTEUR 2	24:P,27:S
SABRE WULF	8:P,9:T,10:P,12:6P+PD
SAI COMBAT	15:T
SCOOBY DOO	23:PD,24:PD,32:P,37:MT
SENTINEL	26:P
720 DEGREES	33:PD,38:MT
SHANGAI KARATE	36:P
SHOCKWAY RIDER	22:P+PD,32:P
SHOGUN	11:M
SHORT CIRCUIT	21:PD,23:P,25:T
SHORT'S FUSE	1:C
SIGMA 7	21:P
SOLOMON'S KEYS	33:P
SORCERY	1:S,2:C
SORCERY PLUS	3:M,7:S,13:PD
SOUL OF A ROBOT	4:M,5:T,7:P
SOUTHERN BELLE	15:S
SPACE HAWKS	6:P,18:P
SPACE HARRIER	18:P,19:P+PD+S+T,20:P+PD,27:P,31:P,32:P
SPEED KING	24:P,25:A
SPELLBOUND	7:T+P,11:T,28:P
SPINDIZZY	9:P,10:T+M,27:P,29:P,38:MT
SPLIT PERSON	35:PD
SPY VSSPY	5:T,27:P
STAINLESS STEEL	15:T+C,16:P
STAR WARS	38:P
STARGLIDER	19:T,20:P,27:PD
STARION	2:S,3:S,4:S,8:T,9:P
STARQUAKE	11:T,16:P
STARSTRIKE 2	15:T,21:P
STEVE DAVIS SNOOKER	5:C
STORM	13:P+M,14:P,18:A
STORM 2:THE FEAR	26:P
STORMBRINGER	24:P,25:T,26:T,28:P
STRANGELOOP	5:M,7:T,8:T
STRIKE F COBRA	27:P
SUPER CYCLE	22:PD,23:A
SUPER HANG-ON	30:P
SUPER PIPELINE 2	21:P,25:P
SUPER ROBIN HOOD	20:P+C,37:MT
SUPER STUNT MAN	34:C
SWEEVO'S WORLD	6:M,9:P,31:P
SWORDS N SORCERY	14:T+M+P,19:T,34:P

T

TAU CETI	11:P
TAU CETI:SPEC ED	14:T
TEMPEST	21:C,26:P
10TH FRAME	24:T
TERMINUS	22:P
TERRA COGNITA	17:P,19:C
THANATOS	19:P,20:T
THEY STOLE MILL	18:M
THING ON A SPRING	10:C+T,34:C
THING BOUNC BACK	24:P,25:PD+T
3 D GRAND PRIX	7:C+T
3 D STARSTRIKE	4:P,31:P
3 D STARFIGHTER	32:P,37:MT
3 WEEKS PARADISE	8:T,9:C
THRUST	15:T+P+M,21:P,30:PD
THRUST 2	22:P,28:P,30:PD
THUNDERCATS	28:P,37:PD
TLL	8:P,12:6P
TOBRUK	15:T
TOMBSTOWNE	10:T,12:T
TRAILBLAZER	17:P,18:A
TRANTOR	33:PD
TRAP	26:P
TRAP DOOR	17:S
TURBO ESPIRIT	12:P,14:T

U

ULTIMA RATIO	29:P
URIDIUM	34:P
US GOLD/GO POKES	33:P+PD,34:P+PD,36:P+PD

V

V	13:T
VAMPIRE	22:P,26:P
VENOM STRIKES BACK	38:T
VIXEN	36:P
VOODOO RAGE	26:P

W

WAY EXPLOD FIST	2:T
WAY OF THE TIGER	9:T
WHO DARES WINS II	7:P,8:M+T,10:T,32:P,37:MT
WILD BUNCH	3:T,7:T
WILLOW PATTERN	7:M
WIZARD'S LAIR	3:S,18:P
WIZBALL	26:P,28:T,37:MT
WRECKLESS ROGER	10:P

X

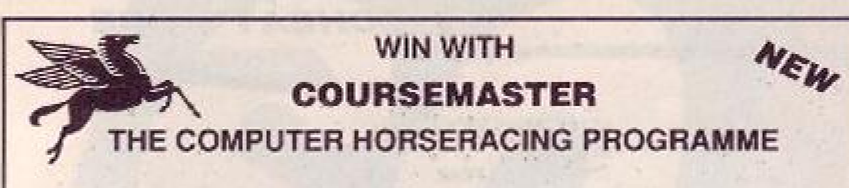
XCEL	19:P,20:T+P
XOR	33:P

Y

YIE-AR KUNG FU	5:T

Z

Z	16:P
ZOIDS	12:T,14:T,19:P,36:P
ZUB	17:S,19:T,21:P,23:P,24:P
ZYNAPS	25:P+PD,34:P,37:MT



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PILGRIM

All adventurers welcome!

Greetings, ye CPC travellers! A cheery welcome to the Pilgrim's cosy corner. Come on in, put thy feet up and make thyself at home. In this month's edition we have a preview of *Fish*, a programming update, your letters and the first part of a complete guide to *Gnome Ranger*

FISH

Magnetic Scrolls

Magnetic Scrolls have just come out with *Fish*, their first product since the intriguing, but mildly disappointing, *Corruption*. The CPC version isn't ready yet, but the Pilg exerted his enormous influence and a little grey magic to get his hands on an early ST sample and reports on the gameplay we CPC owners can expect in a few weeks time...

Although superficially original, the idea behind *Fish* is perfectly traditional. You start off in one place, visit a whole load of others, and attempt to find a stolen artifact and foil the plans of the bad guys. The fact that you start in a goldfish bowl, travel about by warping in and out of different bodies, and do battle with the Seven Deadly Fins is just by the way...

Or is it? The first thing about *Fish* is that, unlike *Jinxter* (in the Pilgrim's opinion), the madcap ideas of Magnetic Scrolls actually do a bit more than disguise a traditional adventure structure - they also make it a lot more enjoyable. The game is essentially a series of mini-scenarios, but each one is accessed in a different body and with a different identity.

Thus within a few minutes of starting the game you've been a fish, a human being, and the occupant of worlds ranging from recording studios to Lurking Horror-type gothic locations. Variety is definitely the spice of life in *Fish* and the game is all the better for it. Of course this tactic has been used before - the most notable example is *Lords of Time* from Level 9, where you access each mini-game through a grandfather clock of mystical dimensions.

Fish comes with a lot of background material on 'warping' - the method by which members of the inter-dimensional security forces carry out their work. The blurb is good fun to read and rather more inspired than the Guardian nonsense that came with *Jinxter*. It's also, in true Mag Scrolls style, very relevant to the gameplay.

We'll have to wait for the CPC version to give a you a definitive review of this product. However, the puzzles I encountered were pleasing both in their variety and logical structure. One of the problems I have occasionally with Magnetic Scrolls products is that the humour in the text is forced into silliness, but in *Fish* – although it pushes its luck occasionally – this isn't the case. I didn't burst out laughing at any point, but then I didn't squirm in my seat with embarrassment.

Fish looks very promising. Let's hope they get the Amstrad version out a little quicker this time...



● *Fish* – but is its humour winsome or just wince-some?

Programming update

After a number of set-backs, including a car break-in that resulted in the loss of some of your listings applications, the Pilg Programming Course is set to resume next month on a regular basis. The Pilgrim has retired (with a large woolly jumper) from his full-time job at Future Publishing to concentrate on his writing, and that means we can devote a lot more time to the programming course and Pilg pages in general.

Those of you with complete back-copy sets of AA may like to know that the following issues contain Programming Info: *AA*16, 17, 18,19, 20, 21, 24, 25, 26, 31, 32, and 33. You can obtain a copy of the complete listing to date by writing to The Pilg and enclosing 3 first class stamps and an A4 sized self-addressed envelope

. Because of the assault on the Pilgrim's car, it's possible that one or two of you who have lately sent in an application for Programming course notes may not have received them. I have a list of names, but no addresses to put them to – send me a postcard with your name and address and I'll dispatch the copies pronto.

Let's hope we have no further distractions and delays: if luck runs in streaks, The Pilg feels reasonably entitled to claim a run of the good stuff!

The complete guide to *Gnome Ranger*

The Paladin presents a complete solution in three parts

Poor Ingrid Bottomlow, graduate of the Institute of Gnome Economics, can't take the none-too-subtle hint from her family that she's not welcome. Teleported to parts unknown, she wants to go back home to Gnettlefield Farm. Now all you've got to do is get her there...

You start outside a shop, wherein you should beware of Greeks (or should we say Centaurs?) bearing gifts. Accept his offer, however, and choose the shovel. Unless you want to end up stuck beside someone's goldfish pond,don't carry out his task.

You may want to come back and do some business, so don't open the letter either. Apart from the shovel, the only item worth getting is the jewellery and maybe the map, for directions. After you've got everything you want you can open the letter and discover what a spiv Cap really is.

A wander round the locale should provide you with a good idea of the lie of the land and you should find several tradeable items. (Mapping all three parts of *GR*, by the way, should pose no problem to even the most inexperienced adventurer. Part One fits into a seven by seven grid, with the exception of the witch's cottage.)

If you get lost in the marshes, look to the sky for help. Keep following your winged guide until she picks you up and carries you off. To gain her aid, dish out some corporal punishment to her siblings.

Once back on terra firma, enter the cave below the pinnacle, which contains a friendly four-legged hippie, who will offer you a floral gift. Accept it and go to the woods. Wait there until one of its petite denizens shows her face. She is easily befriended once you've given her something pretty and you've entered into conversation.

Once befriended she will help you. Take her south to the waterfall, then wander west along the stream. Give the Gnymph the shovel then send her to the end of the rainbow to dig it up. Give Terry Wogan's countryman the Gnymph's find and he will aid you in destroying the Witch.

You're progressing very well. Now return to the road and follow it north. You come across some footprints. 'Aha! the game's afoot, Watson' you cry. 'Surely they are just the depressions made by horses' hooves', replies a disembodied voice. 'You see, my dear Watson, but you do not observe. The footprints I deduce are that of a magical hooved beast, suffering from some great distress brought on by its forlorn search for romance.' Hmmm. All nonsense, of course, but Holmes gets it right as usual...

In the vicinity, you should find a suitable harness for the beast. To collect it, you will need your woodland friend's help again.

Continue on to the witch's cottage. **DON'T ENTER THE GARDEN!** Summon your feathered friend to remove the thing barring the kennel's door. The occupant (a dog, surprise surprise) will escape. Follow it until it meets up with its friends, then take their gift. Once the Gnymph is with you, use the dog's gift and send them to track the unicorn. Follow them until you find it. The unicorn and the gnymph will fall in love. In return for their matchmaking they will give you some pipes to summon them with later.

You are now finally ready to deal with the wicked witch. Enter her garden and go round to the back door.

Call your friends in the manner each one of them has described.

Synchronise one of your friend's assaults on the back door with that of the others' entrance into the cottage. Finally, remember to tell Wogan's mate to go to work on the old hag's feared implement!

● And the complete guide to *Gnome Ranger* continues next month

The Lords and Ladies of Adventure

Once again the undying ones come to the help of those less fortunate than themselves. Remember – if you want to make friends around the world, you can apply to join the Lords and Ladies by writing to:
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The Pilgrim postbag

Lack of adventure

It suddenly occurred to me not so long ago that **all adventure games are the same.** The locations, characters and puzzles vary but in the end it is always a case of picking up and dropping objects, unlocking doors, treasure chests and so on. There is only one solution to adventures – i.e. only one story from beginning to end. I wonder why nobody has developed a game along the lines of the Fighting Fantasy gamebooks, for example?

I would picture a game of this sort to be mainly of multiple choice situations. Normally in a game you examine everything in sight, attempt to open all doors, boxes, and so on, so why not present these options as follows:

OPTIONS:

1. **Go back to sleep.**
2. **Call the landlord's daughter for breakfast.**
3. **Go downstairs to see what's going on.**
4. **Climb out of the window to avoid paying your bill.**
5. **Search the room.**

From these options many more would grow and so finishing the game would not be the end of it... you could try again and have fun discovering other routes to follow. I am no programmer, but I don't see any difficulty in producing a game along these lines. What do you think?

J. Treadgold, Bicester

Although there are simple answers to some of the points you raise, Mr Treadgold, your letter draws attention to what is, to the Pilg's mind, a very serious drawback of conventional adventuring. However, let's clear up the simple points first...

To start with, there have been several games released along the lines you mention. The most obvious are the Level 9 multiple choice games – there was one based on the Adrian Mole books and one on the Archers radio soap. These games weren't terribly successful because although Level 9 managed to pack an awful lot of text into them by using sophisticated compression routines, they still ended up being very limited in gameplay terms. They didn't have as many choice options as you suggest in your letter, and the stories began to appear repetitive after you'd played the game more than three times. Since it didn't take long to finish a session, this doesn't add up to your money's worth.

Secondly, older readers may remember that the Fighting Fantasy books WERE issued as computer games back in 1984. They were programmed by Five Ways Software and released through Hill-MacGibbon. Although no longer available, they were very advanced graphically for their time and included combat sequences. Again, however, they fell down on long-term interest and didn't present enough choices.

The real interest in your letter lies in your spotting where the essential problem lies – in the sequential, object/location-based structure of most adventures. This objection even applies to recent products from Infocom and Magnetic Scrolls (though less to the Level 9 games because of their concentration on interactive characters).

The solution is not, as you suggest, multiple-choice games but – dare I say it? – in role-playing elements. In a game like The Bards Tale you still have locations and objects/puzzles...but the gameplay is altered irrevocably by combat experience and changing character attributes.

The traditional adventure – like it or not – is dying. In the States Infocom, traditionalists par excellence, are changing to role-playing and arcade-influenced games not just out of fashion but because their old games simply AREN'T SELLING. The awful truth is that the text adventure, and even the text-and-graphic adventure is a dying program-form. The way forward has to be in a combination of graphics, role-playing, and interactive character programming – all leavened with a little 'artificial intelligence'. That's my view anyway – what do other

Return to Doom revisited

The following letter was received by the AA editor. Readers will soon see why I intend to answer it personally!

'Dear Steve Carey,

Thanks for the review of *Return to Doom* in the September issue.

I was pleased that there were one or two aspects of the game that The Pilg seemed to like, but disappointed to read that he thought the HELP system was an 'obvious improvement' over the other games he's looked at. Would you please tell the dear Pilg – whoever he is – that the same Help System is there in EVERY game. More care required, methinks.

I note too that he feels the price is too high. What price does he suggest would be fair for a game which, like The Essential Myth's latest, also took over six months to write and which, given careless, unhelpful reviews like that, is unlikely to sell at all on the CPC?

Most of our sales these days are through mail order distributors; after their percentage cut there's little left. 'Advertise in *AA!*' he/you could say.

We have. We shan't bother advertising again. We like criticism, provided that it's informed and fair, and, frankly, we now believe the Pilgrim is overstepping the mark...

Yours sincerely, Brian Kerslake,
Topologika'

The Pilgrim replies:

(I'm sorry Brian but I had to edit your letter, which is considerably longer than we have room for. I hope what we've printed conveys your main feelings.)

I'll answer your letter in order:

1. ***Quite right, I was in error about the HELP facility, but not because I didn't pay attention to the game – I simply didn't recall seeing it on their earlier releases. My memory, not my judgement of the product, was at fault. I apologise for the error, but I'm not taking back anything I said about the game.***
2. ***Essential Myth's game is in a different league from Topologika's. It's still on the expensive side, but has graphics, a three-part loader, a redesigned character set, and a number of other advanced parsing features missing from* Return to Doom.**
3. ***Since we unfortunately omitted Topologika's address from the review, if you want to spend £12.95 on* Return to Doom, *contact them at PO Box 39, Stilton, Peterborough, PE7 3RL. As always, however, I recommend that you read the review before you buy.***

Write to the Pilgrim c/o *AA*, or leave a message via BT Gold on 83:JNL251

Next month The Pilgrim presents a bumper edition of Clue Sniffing – held over from this month through sheer lack of space – and his round-up of the year's events in the adventure world!

TYPE-INS

Programs that bring your CPC to life!

Pattern Generator

Phillip Tate, who lives in South Shields, has been working on an interesting graphic demo that draws patterns with the equation X^2 + Y^2=constant: that is, the position of points on the radius of a circle. Sounds boring? Try typing it – a complex pattern remeniscent of a peacock's fan is generated.

```
1Ø 'Pattern Generator
2Ø 'Philip Tate
3Ø 'Amstrad Action December 1988
4Ø MODE 1:INK Ø,Ø:INK 1,19:INK 2,11
5Ø INK 3,26:BORDER Ø:SYMBOL AFTER 253
6Ø SYMBOL 253,Ø,11Ø,74,74,1Ø6,74,74,1Ø6
7Ø SYMBOL 254,Ø,237,73,73,77,73,73,77
8Ø SYMBOL 255,Ø,128,64,64,128,64,64,85
9Ø PEN 3:LOCATE 11,1:PAPER Ø
1ØØ PRINT"Pattern Generator."
11Ø LOCATE 13,3:PEN 2
12Ø PRINT"By Philip Tate"
13Ø LOCATE 1Ø,1Ø:PEN 1
14Ø PRINT"Instructions (Y/N) ?"
15Ø WINDOW 1,4Ø,5,25
16Ø i$=INKEY$:IF i$<>"" THEN 17Ø
17Ø i$=INKEY$
18Ø IF UPPER$(i$)="Y" THEN 21Ø
19Ø IF UPPER$(i$)="N" THEN 32Ø
2ØØ GOTO 17Ø
21Ø CLS
22Ø PEN 1:LOCATE 14,1
23Ø PRINT"Instructions"
24Ø LOCATE 1,3:PEN 2
25Ø PRINT" First, you will be asked whether or not
    you would like to see  a  demonstration.If you
    would, press Y.  If not, press N.If you press
    Y,  you will see three goodexamples of what
    can be achieved.  Aftereach pattern,  you
    will be requested to";
26Ø PRINT"press ENTER.  You will then see the next
    demo, or if you have seen all three, youwill
    then get a chance to make  your ownpattern.
    To do  this,  you must enter anumber between
    1Ø and 1ØØØ.  The smallerthe number,  the more
    of the pattern you";
27Ø PRINT"will see.  A larger number, and you will
    see  only  the  centre  of  the pattern.Again,
    after each pattern, press ENTER.";
28Ø PRINT:PEN 1:PRINT"Each pattern takes about 6
    min. to draw.";
29Ø PEN 3:LOCATE 1Ø,21:PRINT"Press ENTER to start."
3ØØ i$=INKEY$:IF i$<>""THEN 3ØØ
31Ø i$=INKEY$:IF i$<>CHR$(13)THEN 31Ø
32Ø CLS:LOCATE 1Ø,6:PEN 1:PRINT"Demonstration
    (Y/N) ?"
33Ø i$=INKEY$:IF i$<>"" THEN 33Ø
34Ø i$=INKEY$
35Ø IF UPPER$(i$)="Y" THEN demo=1:GOTO 38Ø
36Ø IF UPPER$(i$)="N" THEN demo=Ø:GOTO 38Ø
37Ø GOTO 34Ø
38Ø DIM dem(3):dem(1)=35Ø:dem(2)=1ØØ:dem(3)=3Ø
39Ø MODE 1:PAPER Ø:PEN 1:INK 1,26:INK 2,6
```

Program notes

Lines 4Ø-13Ø set up the screen. The user can read instructions (lines 21Ø-31Ø), and the program proper runs from 38Ø-76Ø. Lines of major note are 4ØØ (asks for a seed number to use for the pattern), 63Ø-64Ø (set the drawing area) and 65Ø-68Ø (performs the plotting). Line 71Ø saves the picture.

```
4ØØ IF demo=Ø THEN INPUT"Enter your number now: "
    ,num:IF num<1Ø OR num>1ØØØ OR num<>INT(num)
    THEN 4ØØ ELSE 42Ø
41Ø IF demo=1 THEN FOR loop=1 TO 3:MODE 1:INK 1,
    26:PEN 1:num=dem(loop):LOCATE 1,1:PRINT"NUMBER
    :";dem(loop)
42Ø PRINT"Do you wish to save the picture (Y/N) ?"
43Ø i$=INKEY$
44Ø IF UPPER$(i$)="Y" THEN sav=1:GOTO 47Ø
45Ø IF UPPER$(i$)="N" THEN sav=Ø:GOTO 59Ø
46Ø GOTO 43Ø
47Ø PRINT"Enter filename to save picture under:":
    INPUT"",file$
48Ø file$="!"+file$
49Ø PRINT"Insert  a  tape  now,  and press REC
    andPLAY, because as soon as the pattern has
    finished drawing,it will WITHOUT WARNINGstart
    saving."
5ØØ PRINT
51Ø PRINT"NOTE:To load a saved picture from BASIC
    ,type in:":PRINT
52Ø PEN 2:PRINT"MODE Ø";:PEN 1:PRINT" [ENTER]"
53Ø PEN 2:PRINT"FOR A=Ø TO 14:INK A,A*1.5:NEXT";:
    PEN 1:PRINT" [ENTER]"
54Ø PEN 2:PRINT"BORDER Ø:INK 15,26";:PEN 1:PRINT"
    [ENTER]"
55Ø PEN 2:PRINT"LOAD"CHR$(34)"!"CHR$(34)",&CØØØ";:
    PEN 1:PRINT" [ENTER]"
56Ø PRINT
57Ø PRINT"Press any key to start the pattern..."
58Ø i$=INKEY$:IF i$="" THEN 58Ø
59Ø MODE Ø
6ØØ FOR a=Ø TO 14:INK a,a*1.5
61Ø NEXT a:BORDER Ø:INK 15,26
62Ø ORIGIN 32Ø,2ØØ
63Ø FOR x%=-32Ø TO 316 STEP 4
64Ø FOR y%=-2ØØ TO 198 STEP 2
65Ø z=x%*x%+y%*y%
66Ø c%=z/num MOD 15
67Ø PLOT x%,y%,c%
68Ø NEXT y%,x%
69Ø PLOT -32Ø,-2ØØ,15:DRAW 316,-2ØØ:DRAW 316,198:
    DRAW -32Ø,198:DRAW -32Ø,-2ØØ
7ØØ FOR pau=1 TO 2ØØØ:NEXT pau
71Ø IF sav=1 THEN SPEED WRITE 1:SAVE file$,B,&CØØØ
    ,&4ØØØ
72Ø PAPER Ø:PEN 15:INK 15,26:LOCATE 18,25:PRINT
    CHR$(253)CHR$(254)CHR$(255);
73Ø i$=INKEY$:IF i$<>""THEN 73Ø
74Ø i$=INKEY$:IF i$<>CHR$(13) THEN 74Ø
75Ø IF demo=1 THEN NEXT loop:demo=Ø
76Ø GOTO 39Ø
```

Solitaire

Phillip Tate's version of the popular game. Can *you* clear the board and leave just one peg – in the centre hole?

```
1Ø 'Solitaire - Main Game
2Ø 'By Philip Tate
3Ø 'Amstrad Action December 1988
4Ø PAPER Ø:LOCATE 8,15:PRINT SPACE$(26)
5Ø LOCATE 1,25
6Ø FOR a=1 TO 8
7Ø PRINT
8Ø NEXT
9Ø SYMBOL 255,28,62,127,127,127,62,28
1ØØ DIM hole(1Ø,13)
11Ø WINDOW 1,4Ø,7,25
12Ø LOCATE 5,7:PRINT"Do you want instructions
    (Y/N) ?"
13Ø i$=INKEY$:IF i$<>""THEN 13Ø
14Ø i$=UPPER$(INKEY$)
15Ø IF i$="Y" THEN GOTO 18Ø
16Ø IF i$="N" THEN GOTO 67Ø
17Ø GOTO 14Ø
18Ø CLS
19Ø LOCATE 15,2:PEN 3:PRINT"INSTRUCTIONS"
2ØØ LOCATE 1,4:PEN 1
21Ø PRINT" Solitaire is a very popular one-player
    game. It involves a cross-shaped board  with a
    number of holes in it. At the    start of the
    game, every hole except thecentre one has a
    peg in it. The object"
22Ø PRINT"of the game is to finish up with the
    board competely empty except for one peg in the
    centre hole. To remove pegs from the board,
    another peg must jump over it.So, in this
    situation:"
23Ø LOCATE 18,15:PEN 3:PRINT"A B C"
24Ø LOCATE 17,16:PEN 1:PRINT CHR$(15Ø)CHR$(154)
    CHR$(158)CHR$(154)CHR$(158)CHR$(154)CHR$(156)
25Ø LOCATE 17,17:PRINT CHR$(149);:PEN 2:PRINT CHR$
    (255);:PEN 1:PRINT CHR$(149);:PEN 2:PRINT CHR$
    (255);:PEN 1:PRINT CHR$(149)CHR$(255)CHR$(149)
26Ø LOCATE 17,18:PRINT CHR$(147)CHR$(154)CHR$(155)
    CHR$(154)CHR$(155)CHR$(154)CHR$(153)
27Ø LOCATE 28,16:PEN 2:PRINT CHR$(255);:PEN 3:
    PRINT"=peg"
28Ø LOCATE 28,17:PEN 1:PRINT CHR$(255);:PEN 3:
    PRINT"=hole"
29Ø GOSUB 63Ø
3ØØ LOCATE 1,19:PRINT SPACE$(15)
31Ø FOR a=1 TO 13:PRINT:NEXT:PEN 1:LOCATE 1,7
32Ø PRINT" Peg A could jump over peg B to occupy
    hole C, removing peg B. So we would be  left
    with:"
33Ø LOCATE 18,11:PEN 3:PRINT "A B C"
34Ø LOCATE 17,12:PEN 1:PRINT CHR$(15Ø)CHR$(154)
    CHR$(158)CHR$(154)CHR$(158)CHR$(154)CHR$(156)
35Ø LOCATE 17,13:PRINT CHR$(149)CHR$(255)CHR$(149)
    CHR$(255)CHR$(149);:PEN 2:PRINT CHR$(255);:
    PEN 1:PRINT CHR$(149)
36Ø LOCATE 17,14:PRINT CHR$(147)CHR$(154)CHR$(155)
    CHR$(154)CHR$(155)CHR$(154)CHR$(153)
37Ø GOSUB 63Ø
38Ø CLS
39Ø LOCATE 1,2:PEN 1
4ØØ PRINT" However, in this instance:"
41Ø LOCATE 18,4:PEN 3:PRINT"A B C"
42Ø LOCATE 17,5:PEN 1:PRINT CHR$(15Ø)CHR$(154)CHR$
    (158)CHR$(154)CHR$(158)CHR$(154)CHR$(156)
43Ø FOR a=17 TO 23 STEP 2:LOCATE a,6:PRINT CHR$
    (149):NEXT
44Ø PEN 2:FOR a=18 TO 22 STEP 2
45Ø LOCATE a,6:PRINT CHR$(255):NEXT
46Ø PEN 1:LOCATE 17,7:PRINT CHR$(147)CHR$(154)CHR$
    (155)CHR$(154)CHR$(155)CHR$(154)CHR$(153)
47Ø LOCATE 1,9:PRINT" Peg A could not remove peg
    B because    hole C is already occupied."
48Ø PRINT:PRINT" NOTE: Pegs can NOT jump
    diagonally."
49Ø GOSUB 63Ø
5ØØ CLS
51Ø PEN 3:LOCATE 17,2:PRINT"CONTROLS"
52Ø LOCATE 1,4:PEN 1
53Ø PRINT" When you start the game you will see
    the playing board, your name and a box
    containing the moves possible from the  peg
    under the cursor (at the start of   the game
    the cursor is over the centre  hole).Using
    the joystick or cursor keys,";
54Ø PRINT"move the cursor to the peg you wish to
    move and press FIRE/COPY. Then move the
    joystick in the direction you wish to   move
    the peg."
55Ø PRINT" (If you press FIRE/COPY and then decide
    you would like to move a different peg, press
    FIRE/COPY again)."
56Ø GOSUB 63Ø
57Ø CLS
58Ø LOCATE 1,2
59Ø PEN 1:PRINT" If, during a game, you find that
    you   are left with only a few isolated pegs
    and no more possible moves, press Q      (Quit)
    and you can start again. (You canalso quit at
    any point in a game if you wish to restart)."
6ØØ PRINT:PRINT" A final note: Don't despair - it
    can   be done!"
61Ø GOSUB 63Ø
62Ø GOTO 67Ø
63Ø LOCATE 1,19:PEN 3:PRINT"[PRESS ANY KEY]"
64Ø i$=INKEY$:IF i$<>""THEN 64Ø
65Ø i$=INKEY$:IF i$=""THEN 65Ø
66Ø RETURN
67Ø CLS
68Ø LOCATE 9,5:PEN 2:PRINT"Please enter your name:"
69Ø a$="ABCDEFGHIJKLMNOPQRSTUVWXYZØ123456789 *./+&'():"
7ØØ PAPER 3:PEN 2
71Ø LOCATE 14,7:PRINT SPACE$(13)
72Ø LOCATE 14,7
73Ø nm=Ø:nm$=""
74Ø i$=UPPER$(INKEY$)
75Ø IF i$=""THEN 74Ø
76Ø IF i$=CHR$(13) THEN 81Ø
77Ø IF i$=CHR$(127) THEN IF nm>Ø THEN nm=nm-1:nm$
    =LEFT$(nm$,nm):LOCATE 14,7:PRINT SPACE$(13)
    :LOCATE 14,7:PRINT nm$;:GOTO 74Ø
78Ø IF INSTR(a$,i$)=Ø THEN 74Ø
79Ø IF nm<>13 THEN nm$=nm$+i$:nm=nm+1:PRINT i$;
8ØØ GOTO 74Ø
81Ø PAPER Ø:PEN 1:CLS
82Ø FOR a=Ø TO 1Ø:FOR b=Ø TO 1Ø:hole(a,b)=Ø:NEXT
    b,a
83Ø FOR a=4 TO 6:FOR b=2 TO 8:hole(a,b)=2:hole
    (b,a)=2:NEXT b,a
84Ø hole(5,5)=1
85Ø LOCATE 22,4
86Ø PRINT CHR$(15Ø)STRING$(13,154)CHR$(156)
87Ø LOCATE 22,5
88Ø PRINT CHR$(149)SPACE$(3);:PEN 3:PRINT"PLAYER:"
    ;:PEN 1:PRINT SPACE$(3)CHR$(149)
89Ø LOCATE 22,6
9ØØ PRINT CHR$(149)SPACE$(13)CHR$(149)
91Ø LOCATE 22,7
92Ø PRINT CHR$(149)SPACE$(13)CHR$(149)
93Ø LOCATE 22,8
94Ø PRINT CHR$(147)STRING$(13,154)CHR$(153)
95Ø PEN 2:LOCATE 23+(6-INT(nm/2)),7:PRINT nm$
96Ø PEN 1:LOCATE 21,13
97Ø PRINT CHR$(15Ø)STRING$(15,154)CHR$(156)
98Ø LOCATE 21,14
99Ø PRINT CHR$(149);:PEN 3:PRINT"POSSIBLE MOVES:"
    ;:PEN 1:PRINT CHR$(149)
```








```
1000 LOCATE 21,15:PRINT CHR$(149)SPACE$(15)CHR$
     (149)
1010 LOCATE 21,16
1020 PRINT CHR$(147)STRING$(15,154)CHR$(153)
1030 PEN 2
1040 FOR a=8 TO 12 STEP 2:FOR b=4 TO 16 STEP 2
1050 LOCATE a,b:PRINT CHR$(255)
1060 LOCATE b,a:PRINT CHR$(255)
1070 NEXT b,a
1080 PEN 1:LOCATE 10,10:PRINT CHR$(255)
1090 LOCATE 6,2:PRINT CHR$(150)STRING$(7,154)CHR$
     (156):FOR a=3 TO 5:LOCATE 6,a:PRINT CHR$(149)
     :LOCATE 14,a:PRINT CHR$(149):NEXT
1100 LOCATE 2,6:PRINT CHR$(150)STRING$(3,154)CHR$
     (153):LOCATE 14,6:PRINT CHR$(147)STRING$(3,
     154)CHR$(156)
1110 FOR a=7 TO 13:LOCATE 2,a:PRINT CHR$(149):
     LOCATE 18,a:PRINT CHR$(149):NEXT
1120 LOCATE 2,14:PRINT CHR$(147)STRING$(3,154)CHR$
     (156):LOCATE 14,14:PRINT CHR$(150)STRING$
     (3,154)CHR$(153)
1130 FOR a=15 TO 17:LOCATE 6,a:PRINT CHR$(149):
     LOCATE 14,a:PRINT CHR$(149):NEXT
1140 LOCATE 6,18:PRINT CHR$(147)STRING$(7,154)CHR$
     (153)
1150 LOCATE 15,3:PEN 2:PRINT CHR$(255)"=peg"
1160 LOCATE 15,5:PEN 1:PRINT CHR$(255)"=hole"
1170 cx=5:cy=5
1180 LOCATE 22,15:PRINT SPACE$(15)
1190 LOCATE (cx*2)-1,(cy*2)-1:PEN 3
1200 PRINT CHR$(150)CHR$(154)CHR$(156)
1210 LOCATE (cx*2)-1,cy*2:PRINT CHR$(149)
1220 LOCATE (cx*2)+1,cy*2:PRINT CHR$(149)
1230 LOCATE (cx*2)-1,(cy*2)+1:PRINT CHR$(147)CHR$
     (154)CHR$(153)
1240 PEN 2
1250 IF hole(cx,cy)=1 THEN LOCATE 26,15:PRINT"No
     peg.":GOTO 1310
1260 IF hole(cx+1,cy)=2 AND hole(cx+2,cy)=1 THEN
     LOCATE 35,15:PRINT CHR$(243):r=1 ELSE r=0
1270 IF hole(cx,cy+1)=2 AND hole(cx,cy+2)=1 THEN
     LOCATE 31,15:PRINT CHR$(241):d=1 ELSE d=0
1280 IF hole(cx,cy-1)=2 AND hole(cx,cy-2)=1 THEN
     LOCATE 27,15:PRINT CHR$(240):u=1 ELSE u=0
1290 IF hole(cx-1,cy)=2 AND hole(cx-2,cy)=1 THEN
     LOCATE 23,15:PRINT CHR$(242):e=1 ELSE e=0
1300 IF u=0 AND d=0 AND r=0 AND e=0 THEN LOCATE
     27,15:PRINT"None.":m=0 ELSE m=1
1310 PEN 3:LOCATE 16,19:PRINT"CHOOSE PEG"
1320 i$=INKEY$
1330 IF i$<>""THEN 1320
1340 i$=INKEY$
1350 IF i$=""THEN 1340
1360 IF i$=CHR$(224) OR i$=CHR$(88) THEN 1460
1370 IF (i$=CHR$(240) OR i$=CHR$(11)) AND hole(cx,
     cy-1)<>0 THEN GOSUB 1430:cy=cy-1:GOTO 1180
1380 IF (i$=CHR$(241) OR i$=CHR$(10)) AND hole(cx,
     cy+1)<>0 THEN GOSUB 1430:cy=cy+1:GOTO 1180
1390 IF (i$=CHR$(242) OR i$=CHR$(8)) AND hole(cx-1
     ,cy)<>0 THEN GOSUB 1430:cx=cx-1:GOTO 1180
1400 IF (i$=CHR$(243) OR i$=CHR$(9)) AND hole(cx+1
     ,cy)<>0 THEN GOSUB 1430:cx=cx+1:GOTO 1180
1410 IF UPPER$(i$)="Q" THEN 1930
1420 GOTO 1340
1430 LOCATE (cx*2)-1,(cy*2)-1:PRINT SPACE$(3):
     LOCATE (cx*2)-1,cy*2:PRINT CHR$(32):LOCATE
     (cx*2)+1,cy*2:PRINT CHR$(32)
1440 LOCATE (cx*2)-1,(cy*2)+1:PRINT SPACE$(3)
1450 RETURN
1460 IF hole(cx,cy)=1 THEN PAPER 2:PEN 0:LOCATE 26
     ,15:PRINT"No peg.":SOUND 1,1000,10,15:FOR a=1
     TO 500:NEXT:PAPER 0:PEN 2:LOCATE 26,15:PRINT
     "No peg.":GOTO 1310
1470 IF m=0 THEN PAPER 2:PEN 0:LOCATE 27,15:PRINT
     "None.":SOUND 1,1000,10,15:FOR a=1 TO 500:
     NEXT:PAPER 0:PEN 2:LOCATE 27,15:PRINT"None.":
     GOTO 1310
1480 ENV 1,15,-1,10:SOUND 1,100,150,15,1
1490 LOCATE 16,19:PRINT CHR$(32)"MOVE PEG"CHR$(32)
1500 i$=INKEY$
1510 IF i$<>""THEN 1500
1520 i$=INKEY$
1530 IF i$=""THEN 1520
1540 IF (i$=CHR$(240) OR i$=CHR$(11)) AND u=1 THEN
     SOUND 2,100,150,15,1:hole(cx,cy)=1:hole(cx,
     cy-1)=1:hole(cx,cy-2)=2:LOCATE cx*2,cy*2:PEN 1
     :PRINT CHR$(255):LOCATE cx*2,(cy-1)*2:PRINT
     CHR$(255):LOCATE cx*2,(cy-2)*2:PEN 2:PRINT
     CHR$(255):GOTO 1600
1550 IF (i$=CHR$(241) OR i$=CHR$(10)) AND d=1 THEN
     SOUND 2,100,150,15,1:hole(cx,cy)=1:hole(cx,
     cy+1)=1:hole(cx,cy+2)=2:LOCATE cx*2,cy*2:PEN 1
     :PRINT CHR$(255):LOCATE cx*2,(cy+1)*2:PRINT
     CHR$(255):LOCATE cx*2,(cy+2)*2:PEN 2:PRINT
     CHR$(255):GOTO 1600
1560 IF (i$=CHR$(242) OR i$=CHR$(8)) AND e=1 THEN
     SOUND 2,100,150,15,1:hole(cx,cy)=1:hole(cx-1,
     cy)=1:hole(cx-2,cy)=2:LOCATE cx*2,cy*2:PEN 1:
     PRINT CHR$(255):LOCATE (cx-1)*2,cy*2:PRINT
     CHR$(255):LOCATE (cx-2)*2,cy*2:PEN 2:PRINT
     CHR$(255):GOTO 1600
1570 IF (i$=CHR$(243) OR i$=CHR$(9)) AND r=1 THEN
     SOUND 2,100,150,15,1:hole(cx,cy)=1:hole(cx+1,
     cy)=1:hole(cx+2,cy)=2:LOCATE cx*2,cy*2:PEN 1:
     PRINT CHR$(255):LOCATE (cx+1)*2,cy*2:PRINT
     CHR$(255):LOCATE (cx+2)*2,cy*2:PEN 2:PRINT
     CHR$(255):GOTO 1600
1580 IF i$=CHR$(224) OR i$=CHR$(88) THEN SOUND 2,
     1000,10,15:GOTO 1310
1590 GOTO 1500
1600 s=4:t=2
1610 IF hole(s,t)=2 THEN 1180
1620 s=s+1
1630 IF s=7 AND t=2 THEN s=4:t=3
1640 IF s=7 AND t=3 THEN s=2:t=4
1650 IF s=9 AND t<6 AND t>3 THEN s=2:t=t+1
1660 IF s=9 AND t=6 THEN s=4:t=7
1670 IF s=7 AND t=7 THEN s=4:t=8
1680 IF s=7 AND t=8 THEN 1710
1690 IF s=5 AND t=5 THEN s=6:t=5
1700 GOTO 1610
1710 LOCATE 1,19
1720 FOR a=1 TO 20:PRINT
1730 NEXT
1740 WINDOW 1,40,1,25
1750 LOCATE 1,1
1760 FOR a=1 TO 9:PRINT CHR$(11);
1770 CALL &BD19
1780 NEXT
1790 PLOT 0,-10,1
1800 TAG
1810 MOVE 82,336:PRINT"WELL DONE - YOU HAVE
     COMPLETED";
1820 TAGOFF
1830 LOCATE 1,1:PRINT CHR$(22)CHR$(1)
1840 LOCATE 6,5:PEN 2:PRINT"WELL DONE - YOU HAVE
     COMPLETED"
1850 PRINT CHR$(22)CHR$(0)
1860 FOR a=1 TO 1000:NEXT
1870 LOCATE 11,18:PRINT"Another game (Y/N) ?"
1880 i$=INKEY$:IF i$<>""THEN 1880
1890 i$=UPPER$(INKEY$)
1900 IF i$="Y" THEN LOCATE 1,25:FOR a=1 TO 9:PRINT
     :NEXT:WINDOW 1,40,7,25:GOTO 810
1910 IF i$="N" THEN CLS:END
1920 GOTO 1890
1930 CLS
1940 LOCATE 11,5:PEN 2:PRINT"Same player (Y/N) ?"
1950 i$=INKEY$:IF i$<>""THEN 1950
1960 i$=UPPER$(INKEY$)
1970 IF i$="Y" THEN 810
1980 IF i$="N" THEN 670
1990 GOTO 1960
```



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Infocom *AA5* 93%
£19.95 cass £24.95 disk

Hitchikers has appeared on just about every format possible: book, radio, TV, record, dining service (sorry, got carried away there) and, of course, computer. The game is similar in style to the original radio scripts and you'll meet all your old friends: Ford, Zaphod, Arthur and Marvin the paranoid android. Lots of puzzles to solve and humour abounding. Galactic hitchhikers everywhere will thoroughly enjoy it, and earth people can enjoy it too, if they're prepared to part with some of their green papery stuff.

Ingrid's Back

Level 9 *AA38* 82%
£9.95 cass £14.95 disk

Ingrid Bottomlow strikes back in her second venture onto the small screen. Ingrid has returned to her home town of Little Moaning only to find out that the whole village is going to be evicted. Level 9 have improved their adventure system and the characters you meet in the game are more lively and realistic in their behaviour towards you. The graphics have also been improved considerably.

Jewels of Darkness

Rainbird *AA23*
£14.95 cass £19.95 disk

Jewels is a trilogy of older Level 9 adventures that have been re-vamped with graphics and a larger vocabulary. The first of the three is *Colossal Adventure*, based on the original mainframe adventure *Colossal Cave*. It's in the traditional explore-the-dungeon-and-hack-the-monsters style with some cunning problems to solve. The other two, *Dungeon Adventure* and *Adventure Quest*, continue the story. All three are a little dated now, but for the price they're well worth considering.

Jinxter

Magnetic Scrolls/Rainbird *AA30* 88%
£19.95 disk only (128K RAM)

Yet again Magnetic Scrolls show that the humble CPC can produce excellent graphics and still have loads of text for detailed descriptions of objects, people and just about everything else. The plot is the silliest of Mag. Scrolls games, but that doesn't detract from the game.

Knight Orc

Level 9/Rainbird *AA28* 84%
£14.95 cass £19.95 disk

One of the most persecuted characters in fantasy adventures is the orc, and so for a change Level 9 have you play that poor creature. As with *Gnome Ranger* there are three sections to the game, an introductory bit and then two interconnected parts which you can freely move between. The parser is excellent and some high level commands like GOTO and FIND have been included. There are plenty of characters to interact with – if anything, too many. The silly novella is worth a read too.

Lancelot

Level 9 *AA38* 80%
£9.95 cass £14.95 disk

Level 9's latest contribution to the adventure scene is based on King Arthur and the knights of the round table. It uses the same system as the Ingrid Bottomlow games and as an added incentive there's a £5,000 prize for one lucky player. Well worth getting, even if you don't get find the buried replica of the Holy Grail.

Leather Goddesses of Phobos

Infocom *AA15* 91%
£24.99 disk only

Only one adventure ever has had a scratch and sniff card included with the packaging: this is it. It's also the smuttiest adventure you're likely to come across, but what's a little smut between friends. You also get three difficulty levels: tame, suggestive and lewd. Beware of female gorillas on the latter level. Silly and smutty – what more could you want?

Lord of the Rings

Melbourne House *AA6* 85%
£15.95 cass £24.95 disk

Many adventures have a Tolkienesque flavour and so it was inevitable that the most famous fantasy novel of all would turn up on computer, and here's the first part, based on the first book, Fellowship of the Ring. There's a huge vocabulary and loads of very detailed text. Character interaction is also an important aspect and it took a lot of tight programming to squeeze it into memory. Unfortunately the response times are terrible: 30 seconds to move from one location to another is far too slow. Atmospheric, but great patience is needed to solve it.

Lurking Horror

Infocom *AA27* 94%
£24.99 disk only

Infocom have always managed to create a good atmosphere with their adventures, but this has to be by far the best. The tension is great and you fear everything, from the creaking of a door to the faint scratching sounds that you hear. Fans of H. P. Lovecraft will feel the same sort of dread in *Lurking Horror* as is found in his novels as you wander around a university campus trying to retain your sanity

Graphic Adventure Creator

Incentive *AA4*
£22.95 cass £29.95 disk

Although this isn't an adventure, it deserves a mention because you can create your own with it. Text only or graphical adventures can be generated. You get a flexible parser and a good graphics utility to make your masterpieces. If you want to build-your-own then have a look at this.

When the going gets tough, the tough go shopping

Activision have been handling the distribution of Infocom adventures in the UK and a while back they decided to stop converting them to the CPC. This was considered a severe blow by hordes of adventurers, but their complaints have to date been to no avail.

You may still get lucky and find one in the high street shops, or lurking in a dusty remainders box in the dark recesses of some computer store. If anyone knows of a good source of these adventures then do let us know and we'll pass on the information so that Pilg's everywhere can join in your good fortune. Don't keep them all to yourself!

We've quoted the prices as they were when the adventures first appeared. A cursory glance through recent *AA* adverts reveals such companies such as Budgetsoft, for instance (see their ad in *AA37*), who have *Lord of the Rings* at £6.95 (tape) and Castle Computers (☎ 0782 57043) who have it at £3.95. The lesson is clear: it makes sense to check out the alternatives before splashing out.

Melbourne House, incidentally, were bought out by Mastertronic, who took over all their titles: both *Lord of the Rings* and *Shadows of Mordor* are still available from them.

and solve the mystery of the strange disappearances. It's the stuff that nightmares are made of.

Mindfighter

Abstract Concepts/Mediagenic *AA35* 84%
£14.99 cass £19.99 disk

Post holocaust Southampton is the setting for this excursion into adventure. It's programmed by Fergus McNeil (the man responsible for *The Boggit*, *Bored of the Rings* and others) and Anna Popkess and unlike their previous adventures is not *Quilled*, using instead their own system call SWAN. Although not as technically sophisticated as the Magnetic Scrolls and Level 9 systems it's still very good. There's some nice atmosphere and plenty of black and white graphics to see, as well as an icon driven system for some of the more common commands.

The Pawn

Magnetic Scrolls/Rainbird *AA19* 92%
£19.95 disk only(128K RAM)

Graphical adventures had been going for quite a while when this turned up and took the whole caboodle into a new dimension. Breathtaking is the only way to describe the graphics and the text's not lacking either. The disk only format and need for 128K memory limits sales a little, but it's enough to make you want to buy a 6128 just to play it.

Shadows of Mordor

Melbourne House *AA21* 81%
£8.95 cass

The second of the Lord of the Rings adventures continues the story where it left off in the predecessor, Sam and Frodo heading off towards Mount Doom to destroy the One Ring. Fortunately the terribly slow responses have been done away with and the game follows the plot of the second book, The Two Towers, quite closely.

As with the previous adventure you won't be able to just rush through and solve it if you've read the book, but it should help you out.

Silicon Dreams

Rainbird *AA17* 88%
£14.95 cass £19.95 disk

Another trilogy of Level 9 games re-appears as a compilation, this time a futuristic setting which starts with *Snowball*, continues in *Return to Eden* and rounds off with *The Worm in Paradise*.

As with all Level 9 adventures the text is excellent, though the graphics are of the usual tacky standard that accompanies all early Level 9 adventures.

Snowball is the best of the three, but the other two are still very good, if a little confusing at times. Worth the investment.

Time and Magik

Level 9/Mandarin *AA34* 92%
£14.95 cass £19.95 disk

Lords of Time, *Red Moon* and its sequel, *The Price of Magik*, make up the third of the Level 9 compilations. *Lords of Time* is one of their older adventures which has had graphics added. It's basically nine mini-adventures linked through a time machine, with movement between them not only easy, but essential to solving it. The other two adventures remain unchanged from their first appearance on the CPC, and they too are packed with detail. Money well spen, even if you already own one or two of the games already.

Wish Bringer

Infocom *AA9* 92%
£28.70 disk only

Infocom produce the best text only adventures and this is no exception. It's aimed more at novice players, but that doesn't mean that advanced players won't enjoy it. There are lots of humorous touches and some terrifying monsters such as the poodle. Unfortunately the price is still preposterously high for the CPC (the most expensive of all?) and may be the deciding factor against *Wish Bringer*.

Zork I

Infocom *AA5* 86%
£19.95 disk only

Infocom's first adventure was *Zork*, later called *Zork I* because it was the first of a trilogy. By present standards it looks a little dated, being basically a treasure hunt and dungeon exploration, but that doesn't mean it isn't good. This is where Infocom began: play this and you'll see they *started* streets ahead of the competition.

Fellowship of the 'rings'

Electronic Arts	0753 49442
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Firebird's

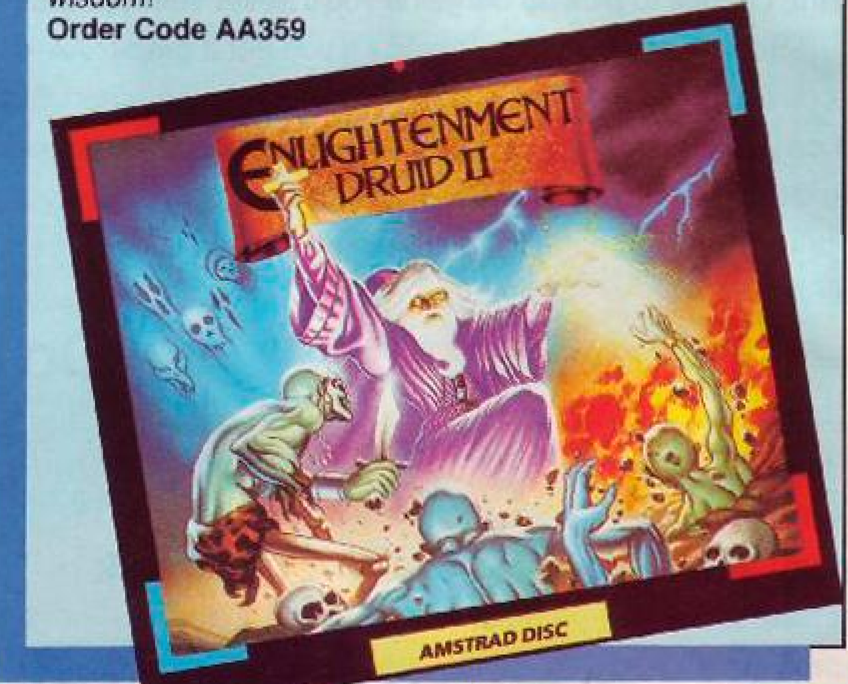
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ENLIGHTENMENT, the game which subscribers get free of charge when they choose a tape rather than a disk game, is now available to **all *Amstrad Action* readers** for just **£3.95.** It's a Firebird game which was released in April of this year with the full title of *Enlightenment Druid II*. Complete with 22 page manual/initiation booklet, *Druid II* follows the quest for magical powers in the context of an icon-driven adventure which won praise from both adventurers and those more used to arcade action.

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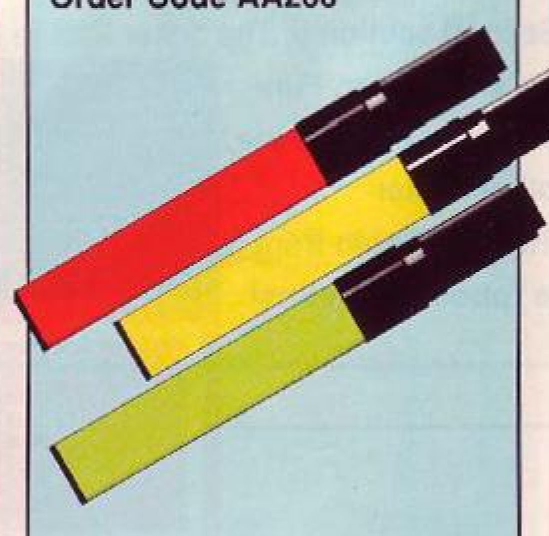


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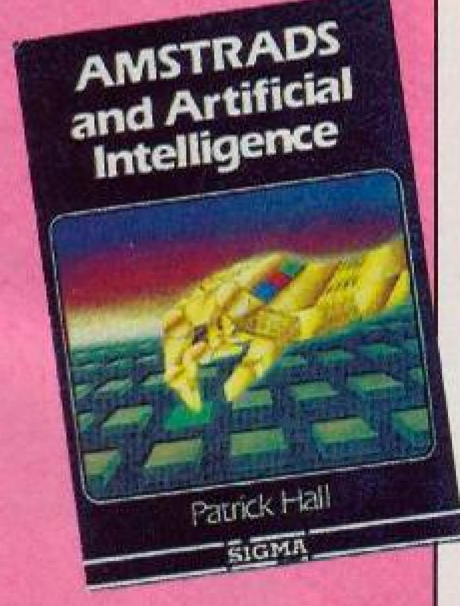
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Activision's

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BACK ISSUES

Expand your Amstrad Action collection!

If you're one of the thousands of readers who've joined *Amstrad Action* only recently, you'll want to catch up on some of the good things you've missed. Here's how to do it. We have limited numbers of the back issues listed below, which we're selling at cover price with post and packing free.

Issues 8 and 16 may be of particular interest, as both include free cassettes packed with good software. Two series also went down very well. Andy Wilton's programming course in Basic for absolute beginners ran from issues 8-17, while a series of articles on the CP/M operating system ran from 10-17.

All issues contain numerous game reviews, Type-Ins and Pokes, all making up the best in Amstrad Action past and present.

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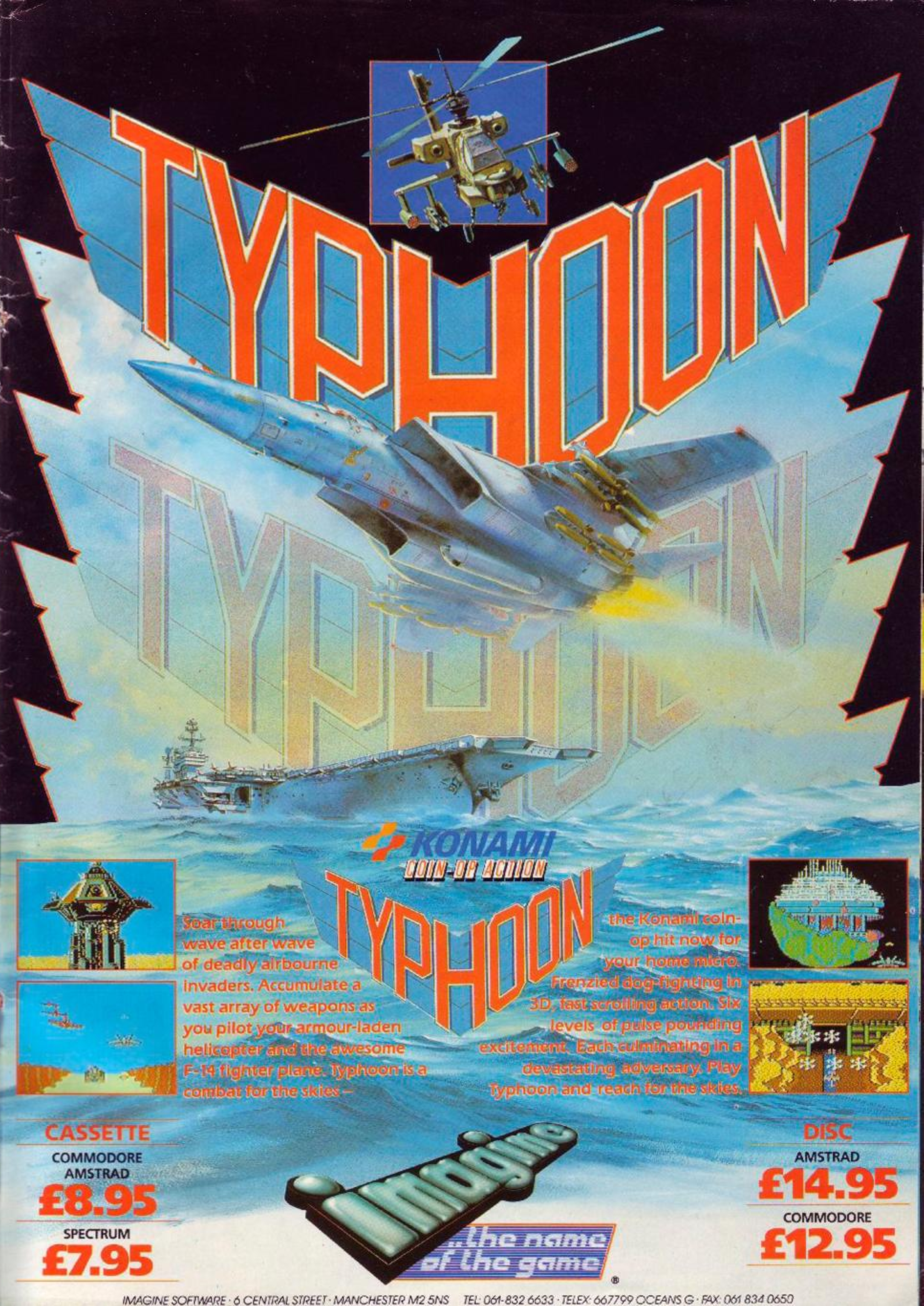
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